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Monitoring Report #7

WATER QUALITY OF INTERSTATE STREAMS IN THE SUSQUEHANNA RIVER BASIN

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Fiscal Year 1993
July 1, 1992 - June 30, 1993

SUSQUEHANNA RIVER BASIN COMMISSION

Publication No. 160

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Water quality of interstate
streams in the Susquehanna

Monitoring Report #7

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Fiscal Year 1993
July 1, 1992 - June 30, 1993

Prepared By

Scott W. Bollinger
Environmental Specialist

Division of Water Quality and Monitoring Programs

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The Susquehanna River Basin was created as an independent agency by a federal-interstate compact* among the states of Maryland, New York, Commonwealth of Pennsylvania, and the federal government. In creating the Commission, the Congress and state legislatures formally recognized the water resources of the Susquehanna River Basin as a regional asset vested with local, state, and national interests for which all the parties share responsibility. As the single federal-interstate water resources agency with basinwide authority, the Commission's goal is to effect coordinated planning, conservation, management, utilization, development and control of basin water resources among the government and private sectors.

**Statutory Citations: Federal - Pub. L. 91-575, 84 Stat. 1509 (December 1970); Maryland - Natural Resources Sec. 8-301 (Michie 1974); New York - ECL Sec. 21-1301 (McKinney 1973); and Pennsylvania - 32 P.S. 820.1 (Supp. 1976).*

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ABSTRACT

Water samples were collected from 29 stations on interstate streams between July 1, 1992, and June 30, 1993. Samples were collected every other month from streams judged to have a high potential for degradation. Streams judged to have a moderate potential for degradation were sampled once during July and August 1992. Benthic macroinvertebrates were sampled at each station in July and August 1992. The data collected are used: (1) to assess compliance with water quality standards; (2) to assess impacts on water quality; (3) to characterize ambient and seasonal stream quality; and (4) to assess future trends.

Most interstate streams have good water quality. Only 36 of the 2,880 analyses exceeded water quality standards. Iron most commonly exceeded standards.

Scott Creek is the only interstate stream having poor water quality. Untreated sewage discharges from Cardiff, Md., impair water quality in this stream. Cayuta Creek and the Chemung River have elevated chemical concentrations due to wastewater discharges. Acid mine drainage to the Tioga River contributes to elevated metals concentrations. Conowingo Creek has elevated nutrient concentrations due to agricultural runoff in the watershed.

INTRODUCTION

The Susquehanna River Basin Commission (SRBC) reviews projects and policies for potential impacts on interstate water resources in the Susquehanna River Basin. Current water quality data are needed to conduct these reviews. Monitoring programs conducted by New York, Pennsylvania, and Maryland, do not produce comparable data and do not assess all of the interstate streams. Therefore, the SRBC established a monitoring program to collect data needed to assess potential impacts on the water quality of interstate streams. This ongoing program is partially funded through a grant from the U.S. Environmental Protection Agency.

The monitoring program includes periodic collection of water and biological samples from interstate streams. Chemical data are used: (1) to assess compliance with state water quality standards; (2) to characterize stream quality and seasonal variations; and (3) to build a database for the future assessment of water quality trends. Biological conditions are monitored by assessing benthic macroinvertebrate populations. Macroinvertebrate populations provide an indication of the biological health of a stream and serve as indicators of water quality.

Monitoring began in April 1986. Results were originally reported for water years that run from October to September (McMorran, 1988; McMorran and Bollinger, 1989; McMorran and Bollinger, 1990; Bollinger, 1991, Bollinger, 1992). This report is presented for the SRBC fiscal year that covers the period from July 1, 1992, to June 30, 1993.

BASIN GEOGRAPHY

The Susquehanna River Basin is the largest river basin on the Atlantic Coast of the United States; draining 27,580 square miles (Figure 1). The Susquehanna River originates at the outlet of Otsego Lake, Cooperstown, N.Y., and flows 450 miles through New York, Pennsylvania, and Maryland to the Chesapeake Bay at Havre de Grace, Maryland. Eighty-three streams cross state lines in the basin (Table 1). Some streams traverse the state lines at several places, contributing to a total of 91 crossings. At 45 of these locations, streams flow from New York into Pennsylvania. Twenty-two reaches cross from Pennsylvania into New York, 15 from Pennsylvania into Maryland, and nine from Maryland into Pennsylvania. Many streams are small; 32 are unnamed.

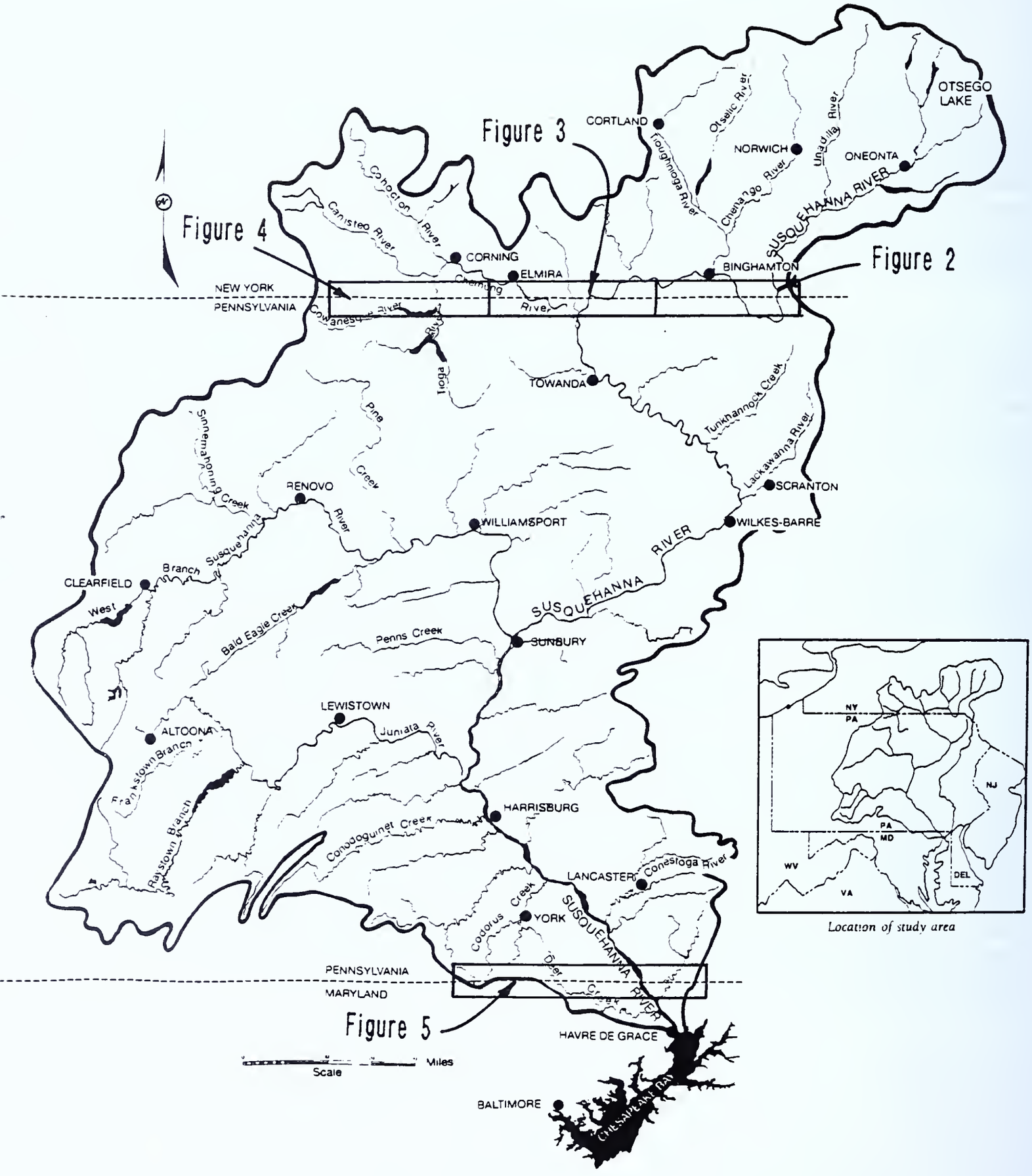


FIGURE 1. Map Showing the Susquehanna River Basin

TABLE 1. Interstate Streams in the Susquehanna River Basin

Stream Name	Monitoring Group	Flow Direction (from → to)
Streams Along the New York-Pennsylvania Border		
Apalachin Creek	2	Pa.→N.Y.
Babcock Run	3	N.Y.→Pa.
Bentley Creek	2	Pa.→N.Y.
Bill Hess Creek	3	N.Y.→Pa.
Bird Creek	3	Pa.→N.Y.
Biscuit Hollow	3	N.Y.→Pa.
Briggs Hollow Run	3	N.Y.→Pa.
Bulkley Brook	3	N.Y.→Pa.
Camp Brook	3	N.Y.→Pa.
Cascade Creek	2	N.Y.→Pa.
Cayuta Creek	1	N.Y.→Pa.
Chemung River	1	N.Y.→Pa.→N.Y.→Pa.
Choconut Creek	2	Pa.→N.Y.
Cook Hollow	3	N.Y.→Pa.
Cowanesque River	1	Pa.→N.Y.
Deep Hollow Brook	3	N.Y.→Pa.
Denton Creek	3	N.Y.→Pa.
Dry Brook	3	N.Y.→Pa.
Holden Creek	2	N.Y.→Pa.
Little Snake Creek	2	Pa.→N.Y.
Little Wappasening Creek	3	Pa.→N.Y.
North Fork Cowanesque River	2	N.Y.→Pa.
Parks Creek	3	Pa.→N.Y.
Prince Hollow Run	3	N.Y.→Pa.
Red House/Beagle Hollow	3	N.Y.→Pa.
Russell Run	3	N.Y.→Pa.
Sackett Creek	3	Pa.→N.Y.
Seeley Creek	2	Pa.→N.Y.
South Creek	2	Pa.→N.Y.
Snake Creek	2	Pa.→N.Y.
Strait Creek	3	N.Y.→Pa.
Susquehanna River	1	N.Y.→Pa.→N.Y.→Pa.
Tioga River	1	Pa.→N.Y.
Troups Creek	1	N.Y.→Pa.
Trowbridge Creek	2	N.Y.→Pa.
Wappasening Creek	2	Pa.→N.Y.

TABLE 1. Interstate Streams in the Susquehanna River Basin (Continued)

Stream Name	Monitoring Group	Flow Direction (from → to)
Streams Along the New York-Pennsylvania Border		
White Branch	3	N.Y.→Pa.
White Hollow	3	Pa.→N.Y.
17 Unnamed tributaries	3	N.Y.→Pa.
2 Unnamed tributaries	3	Pa.→N.Y.
2 Unnamed tributaries	3	Pa.→N.Y.→Pa.
1 Unnamed tributary	3	N.Y.→Pa.→N.Y.
Streams Along the Pennsylvania-Maryland Border		
Big Branch Deer Creek	2	Pa.→Md.
Conowingo Creek	1	Pa.→Md.
Deer Creek	1	Pa.→Md.
Ebaughs Creek	1	Pa.→Md.
Falling Branch Deer Creek	2	Pa.→Md.
Island Branch	3	Pa.→Md.
Long Arm Creek	2	Md.→Pa.
Octoraro Creek	1	Pa.→Md.
Scott Creek	1	Md.→Pa.
South Branch Conewago Creek	2	Md.→Pa.
Susquehanna River	1	Pa.→Md.
6 Unnamed tributaries	3	Md.→Pa.
7 Unnamed tributaries	3	Pa.→Md.

METHODS

Sampling Frequency

In Water Year 1989, the interstate streams were divided into the following three groups according to the degree of water quality impairment and potential for degradation.

Streams with impaired water quality or that were judged to have a high potential for degradation were assigned to Group 1. Water samples were collected from these stations every other month except for the months of January and February. Sampling was alternated so that streams along the New York-Pennsylvania border were sampled during July, September, November, March, and May and streams along the Pennsylvania-Maryland border were sampled during August, October, December, April, and June. Benthic macroinvertebrates were collected at Group 1 stations during July and August 1992.

Streams judged to have a moderate potential for impacts were assigned to Group 2. Water quality and macroinvertebrate samples were obtained from Group 2 stations once a year during July and August 1992.

Streams that were judged to have a low potential for impacts were assigned to Group 3. These stations were not sampled, but were visually inspected for signs of degradation once a year.

Stream stations sampled during Fiscal Year 1993 are listed in Tables 2 and 3 and shown on Figures 2 through 5.

Stream Discharge

Stream discharge was measured at all stations unless high streamflows made access impossible. Several stations are located near United States Geological Survey (USGS) stream gages. These stations include: the Susquehanna River at Windsor, N.Y., Kirkwood, N.Y., Sayre, Pa., Marietta, Pa., and Conowingo, Md.; the Chemung River at Chemung, N.Y.; the Tioga River at Lindley, N.Y.; and the Cowanesque River at Lawrenceville, Pa. Stream discharges from USGS gaging stations are reported as instantaneous discharges in cubic feet per second (cfs). Instantaneous discharge for stations not located near USGS gaging stations was measured at the time of sampling, using standard USGS procedures.

Water Samples

Water samples were collected at each of the sites to measure nutrient and metal concentrations. The chemical and physical parameters are listed in Table 4. Water samples were collected using a depth-integrating sampler.

TABLE 2. Stream Stations Sampled Along the New York-Pennsylvania Border and Sampling Rationale

Station	Stream and Location	Monitoring Group	Rationale
SUSQ 365.0	Susquehanna River, Windsor, N.Y.	1	Large drainage area (1,882 sq. mi.); municipal discharges from Cooperstown, Sidney, Bainbridge, and Oneonta
CASC 1.6	Cascade Creek, Lanesboro, Pa.	2	Monitor for potential water quality impacts
TROW 1.6	Trowbridge Creek, Great Bend, Pa.	2	Monitor for potential water quality impacts
SNAK 2.3	Snake Creek, Brookdale, Pa.	2	Monitor for potential water quality impacts.
LSNK 7.6	Little Snake Creek, Brackney, Pa.	2	Monitor for potential water quality impacts
SUSQ 340.0	Susquehanna River, Kirkwood, N.Y.	1	Large drainage area (2,232 sq. mi.); historical pollution due to sewage from Lanesboro, Oakland, Susquehanna, Great Bend, and Hallstead
CHOC 9.1	Choconut Creek, Vestal Center, N.Y.	2	Monitor for potential water quality impacts
APAL 6.9	Apalachin Creek, Little Meadows, Pa.	2	Monitor for potential water quality impacts
WAPP 2.6	Wappasening Creek Nichols, N.Y.	2	Monitor for potential water quality impacts
CAYT 1.7	Cayuta Creek, Waverly, N.Y.	1	Municipal discharge from Waverly
NFCR 7.6	North Fork Cowanesque River, North Fork, Pa.	2	Monitor for potential water quality impacts
TRUP 4.5	Troups Creek, Austinburg, Pa.	1	High turbidity and moderately-impaired macroinvertebrate populations
HLDN 3.5	Holden Creek, Woodhull, N.Y.	2	Monitor for potential water quality impacts
COWN 2.2	Cowanesque River, Lawrenceville, Pa.	1	Impacts from flood control reservoir
TIOG 10.8	Tioga River, Lindley, N.Y.	1	Pollution from acid mine discharges and impacts from flood control reservoirs.
SEEL 10.3	Seeley Creek, Seeley Creek, N.Y.	2	Monitor for potential water quality impacts

Table 2. Stream Stations Sampled Along the New York-Pennsylvania Border and Sampling Rationale (Continued)

Station	Stream and Location	Monitoring Group	Rationale
SOUT 7.8	South Creek, Fassett, Pa.	2	Monitor for potential water quality impacts
BNTY 0.9	Bentley Creek, Wellsburg, N.Y.	2	Monitor for potential water quality impacts
CHEM 12.0	Chemung River, Chemung, N.Y.	1	Municipal and industrial discharges from Elmira
SUSQ 289.1	Susquehanna River, Sayre, Pa.	1	Large drainage area (4,933 sq. mi.); municipal and industrial discharges

TABLE 3. Stream Stations Sampled Along the Pennsylvania-Maryland Border and Sampling Rationale

Station	Stream and Location	Monitoring Group	Rationale
SBCC 20.4	South Branch Conewago Creek, Bandanna, Pa.	2	Monitor for potential water quality impacts
LNGA 2.5	Long Arm Creek, Bandanna, Pa.	2	Monitor for potential water quality impacts
SUSQ 44.5	Susquehanna River, Marietta, Pa.	1	Bracket hydroelectric dams near the state line
SCTT 3.0	Scott Creek, Delta, Pa.	1	Pollution from untreated sewage
CNWG 4.4	Conowingo Creek, Pleasant Grove, Pa.	1	High nutrient loads and other agricultural runoff; Nonpoint runoff to Chesapeake Bay
OCTO 6.6	Octoraro Creek, Rising Sun, Md.	1	High nutrient loads due to agricultural runoff from New Bridge, Md. Water quality impacts from Octoraro Lake; Nonpoint runoff to Chesapeake Bay
EBAU 1.5	Ebaughs Creek, Stewartstown, Pa.	1	Municipal discharge from Stewartstown; Nonpoint runoff to Chesapeake Bay
DEER 44.5	Deer Creek, Gorsuch Mills, Md.	1	Past pollution from Gorsuch Mills, Md., Stewartstown, Pa.; Nonpoint runoff to Chesapeake Bay
BBDC 4.1	Big Branch Deer Creek, Fawn Grove, Pa.	2	Monitor for potential water quality impacts
FBDC 4.1	Falling Branch Deer Creek, Fawn Grove, Pa.	2	Monitor for potential water quality impacts
SUSQ 10.0	Susquehanna River, Conowingo, Md.	1	Bracket hydroelectric dams near state line.

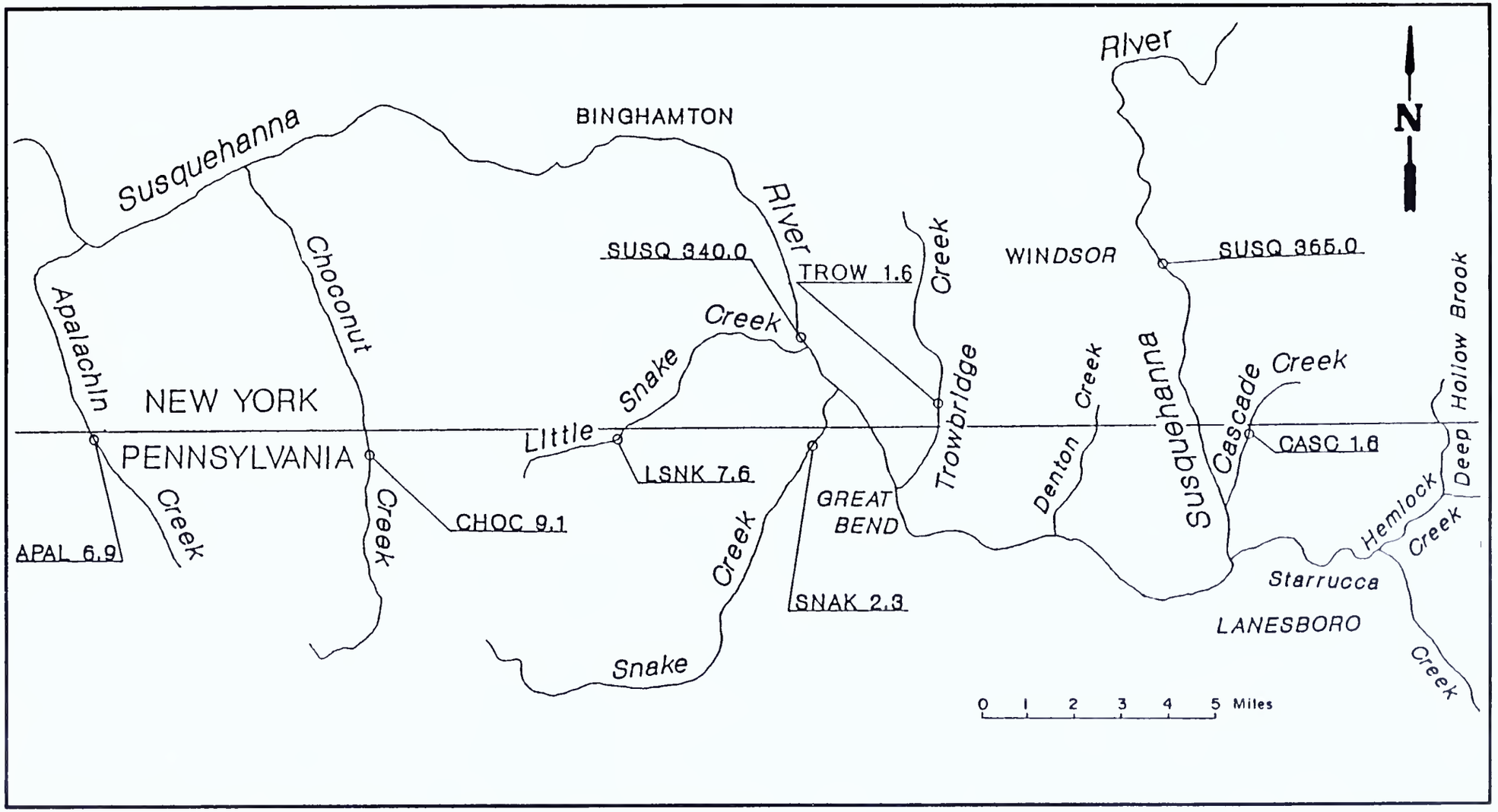


FIGURE 2. Interstate Streams Along the New York-Pennsylvania Border Between Apalachin Creek and Cascade Creek

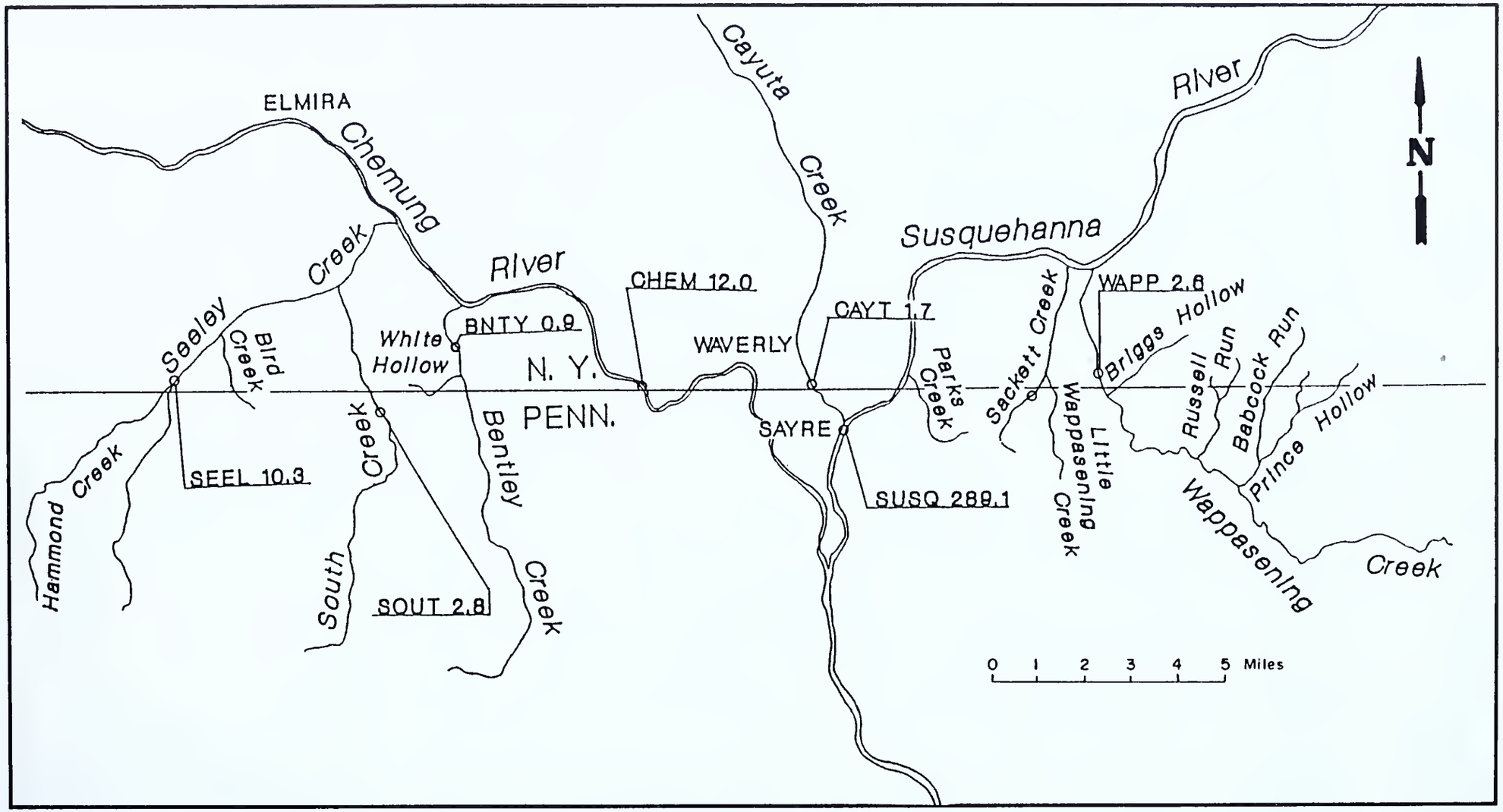


FIGURE 3. Interstate Streams Along the New York-Pennsylvania Border Between Seeley Creek and Wappasening Creek

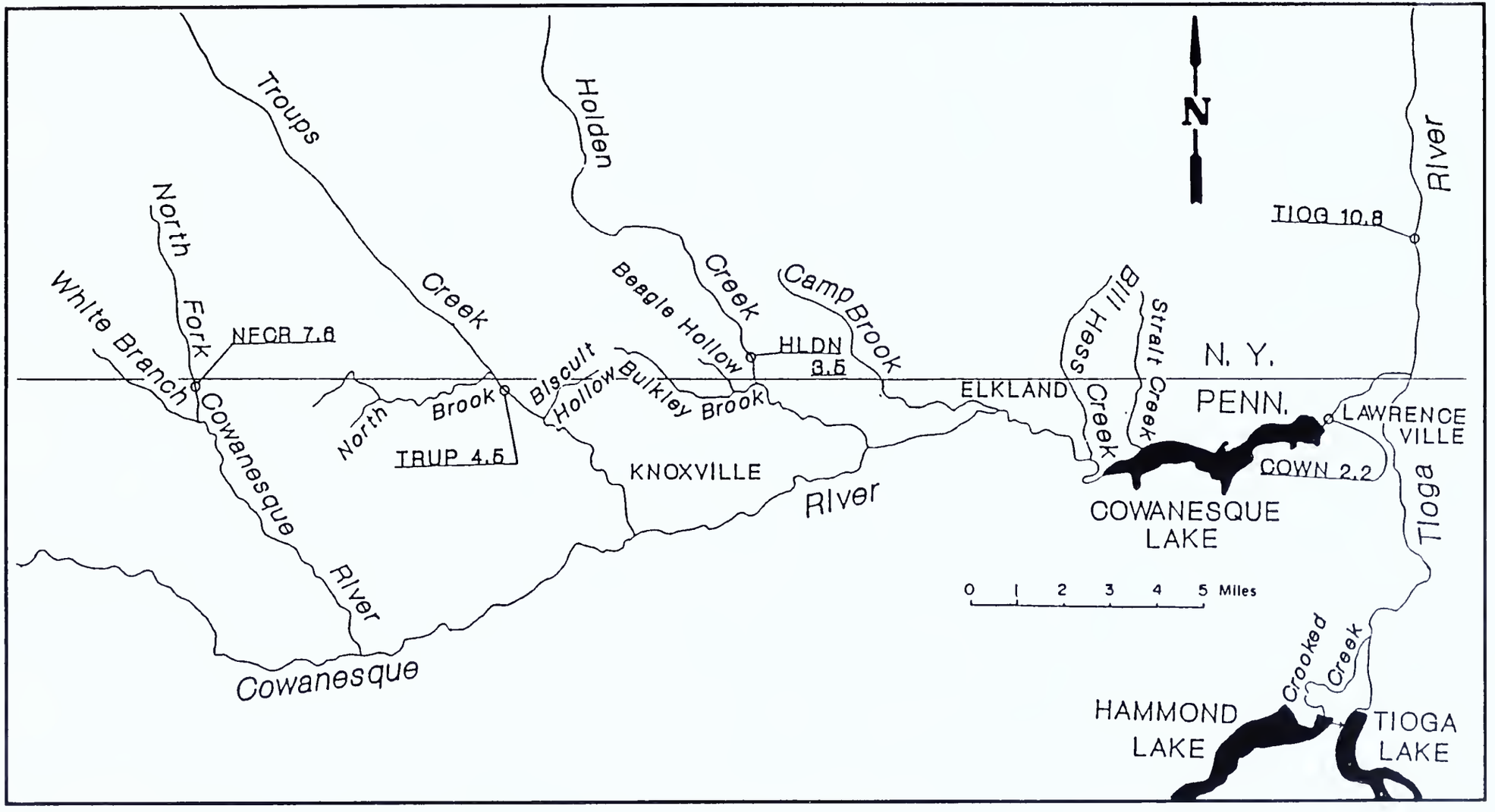


FIGURE 4. Interstate Streams Along the New York-Pennsylvania Border Between North Fork Cowanesque River and Tioga River

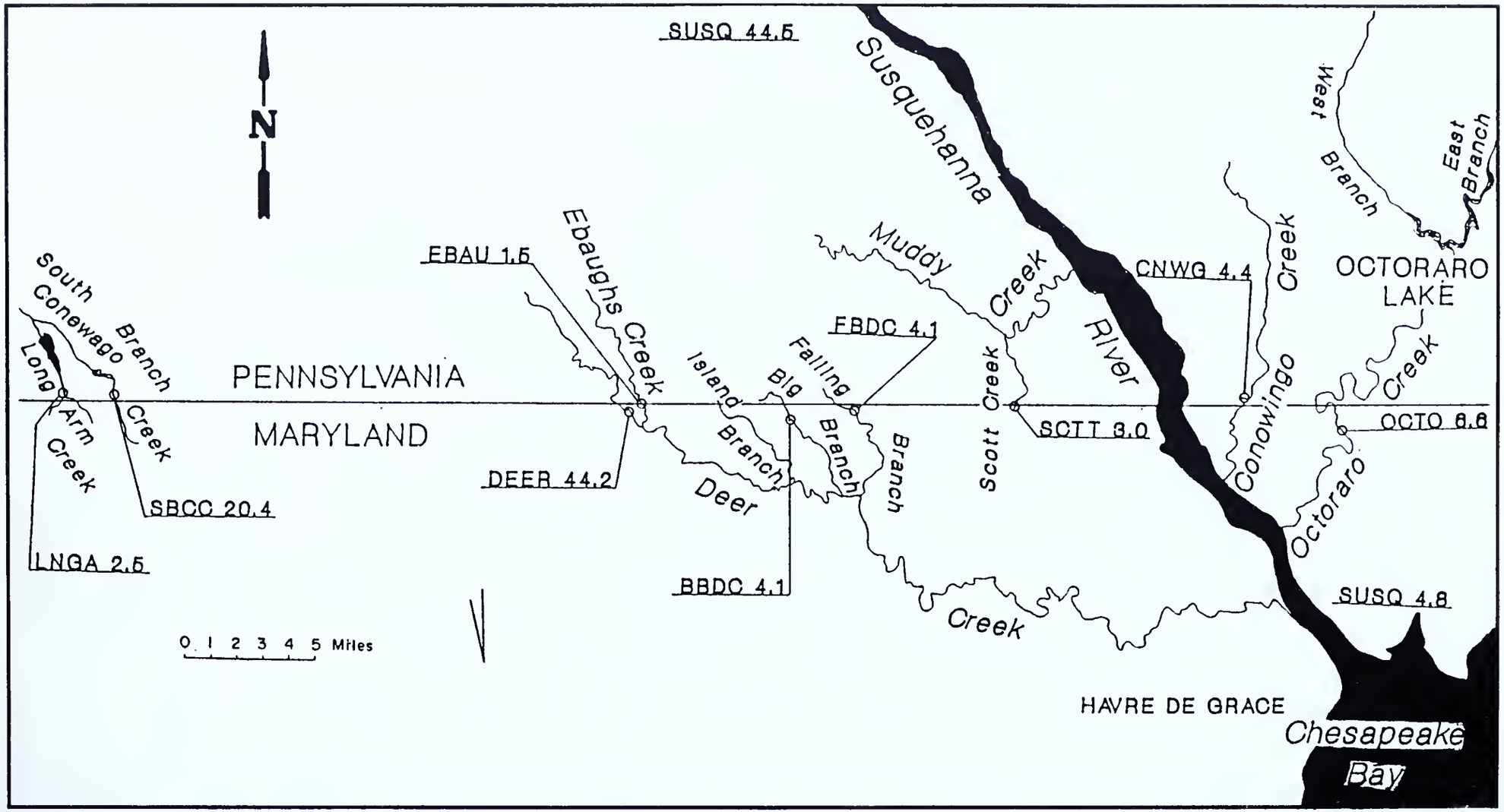


FIGURE 5. Interstate Streams Along the Pennsylvania-Maryland Border

TABLE 4. Monitored Parameters

Parameter		STORET Code
Physical		
Discharge		00060
Temperature		00010
Chemical		
Field Analyses		
Conductivity		00095
Dissolved Oxygen		00300
pH		00400
Alkalinity		00410
Acidity		00435
Free chlorine		50064
Laboratory Analyses		
Biochemical Oxygen Demand		00310
Solids	Dissolved	00515
	Total	00500
Ammonia as Nitrogen	Dissolved	00608
	Total	00610
Nitrite as Nitrogen	Dissolved	00613
	Total	00615
Nitrate as Nitrogen	Dissolved	00618
	Total	00620
Kjeldahl Nitrogen	Dissolved	00623
	Total	00625
Phosphorus	Dissolved	00666
	Total	00665
Orthophosphate	Dissolved	00671
	Total	70507
Organic Carbon	Total	00680
Magnesium	Total	00927
Chloride	Total	00940
Sulfate	Total	00945
Iron	Dissolved	01046
	Total	01045
Manganese	Dissolved	01056
	Total	01055
Aluminum	Dissolved	01106
	Total	01105
Turbidity		82079

Composite samples were obtained by collecting eight depth-integrated samples across the stream channel and combining them in a churn splitter, which was previously rinsed with distilled water. Sample water was thoroughly mixed in the churn splitter and collected for nutrient analysis in two 500 ml bottles, one filtered and one raw. Samples for metals analysis were collected in two acid-rinsed 500 ml bottles, one filtered and one raw sample. Samples to be used for metals analysis were fixed with 2.0 ml of concentrated nitric acid (HNO3). A cellulose nitrate filter with 0.45 micrometer pore size was used to obtain the filtrate for laboratory analysis. New filter paper was used at each station. The samples were chilled on ice and sent to the Pennsylvania Department of Environmental Resources (Pa. DER), Bureau of Laboratories in Harrisburg, Pa.

Field Chemistry

Temperature, dissolved oxygen, conductivity, pH, alkalinity, acidity, and chlorine were measured in the field. Temperature and dissolved oxygen were measured using a YSI model 54A dissolved oxygen meter. The dissolved oxygen meter was calibrated at the beginning of each day that water samples were collected. A Beckman solu-bridge conductivity meter was used to measure conductivity. An Orion Model 399A meter was used to measure pH. The pH meter was calibrated at the beginning of each day and randomly checked during the day. Alkalinity was determined by titrating a known volume of sample water to pH 4.5 with 0.02 normal sulfuric acid (H2SO4). Acidity was measured by titrating a known volume of sample water to pH 8.3 with 0.02 normal sodium hydroxide (NaOH). Total free chlorine was measured using a Lamotte 4497-DR, Model PC7-DR chlorine test kit.

Macroinvertebrate Sampling

Benthic macroinvertebrates were collected from Group 1 and Group 2 stations between July 22 and August 5, 1992. Macroinvertebrates were sampled to provide an indication of the ecological condition of the stream. Macroinvertebrates are defined as aquatic insects and other invertebrates that are too large to pass through a No. 30 sieve.

Sampling was performed using a one square meter kick screen with size No. 30 mesh. The kick screen was stretched across the current, and a hoe was used to dislodge the macroinvertebrates from the substrate. The current carried the dislodged macroinvertebrates into the seine. The macroinvertebrates were washed from the seine and preserved in alcohol for identification in the laboratory. Two kick screen samples were collected at each station.

Data Synthesis

Results of laboratory analyses for chemical parameters were compared to state water quality standards. In addition, a simple water quality index (WQI) was calculated, using procedures established by McMorran (1989). The WQI was used to make comparisons between sampling periods and stations within the same geographical region; therefore, the water quality data were divided into two groups. One group contained stations along the New York-

Pennsylvania border and the other group contained stations along the Pennsylvania-Maryland border. The data in each group were sorted by parameter and ranked by increasing order of magnitude. The rank of each chemical analysis was divided by the total number of observations in the group to obtain a percentile. The WQI score was calculated by averaging all the percentile ranks for each sample. High water quality index scores indicate poor water quality.

Benthic macroinvertebrate samples were assessed using the procedures described in Rapid Bioassessment Protocols for Use in Streams and Rivers (Plafkin et al., 1989). This method calculates a series of biological indices for a stream and compares them to an unimpaired reference station in the same ecoregion to determine the degree of impairment. A high rapid biassessment protocol score indicates a low degree of impairment and a healthy macroinvertebrate population. The reference stations used for this study are the Susquehanna River at Windsor, N.Y., Snake Creek near Brookdale, Pa., and the South Branch Conewago Creek near Bandanna, Pa.

RESULTS

The water quality in most interstate streams continues to meet designated use classes and water quality standards. The parameter that most frequently exceeded water quality standards was total iron (Table 5, Figure 6). Only 36 out of 2,880 observations exceeded water quality standards.

TABLE 5. Water Quality Standards

Parameter	Number of Observations	Number Exceeding Standards	Standard
Alkalinity	90	3	Pa. chronic fish criteria
Total iron	90	15	N.Y. health (water source)
	90	8	Pa. chronic fish criteria
Dissolved iron	90	3	Pa. chronic fish criteria
Total manganese	90	2	N.Y. health (water source)
Dissolved manganese	90	2	N.Y. health (water source)
Total Nitrate	90	1	Pa. water supply
Dissolved Solids	90	1	N.Y. health (water source)
	90	1	Pa. water supply

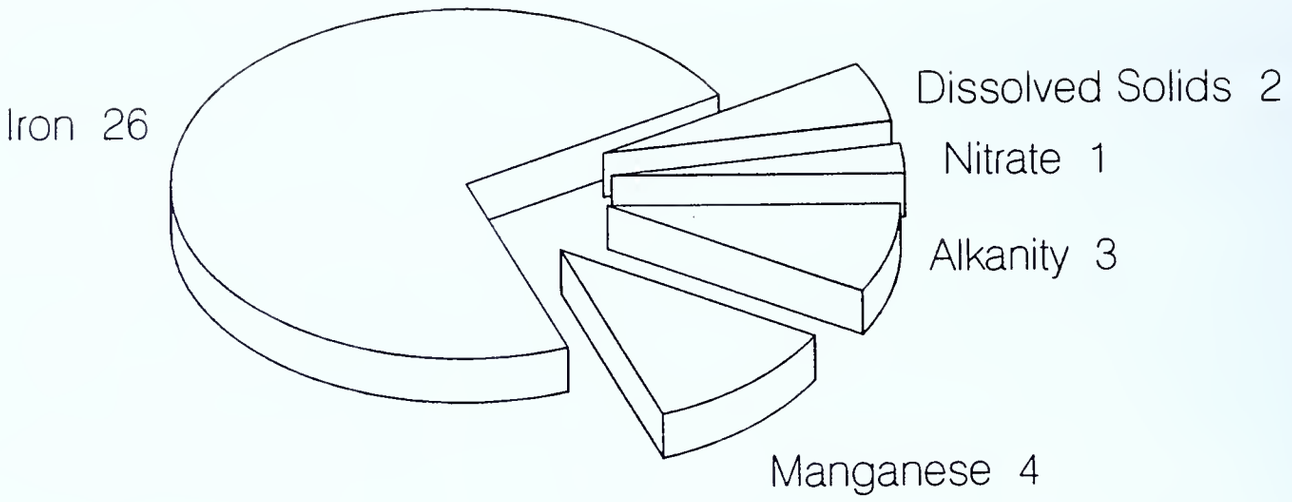


FIGURE 6. Parameters Exceeding Water Quality Standards

New York-Pennsylvania Border Streams

Cascade Creek near Lanesboro, Pa., has a moderately-impaired biological community. Water quality data indicates that total iron and alkalinity exceeded water quality standards.

A slightly- to moderately-impaired biological community exists in Trowbridge Creek. Total iron and alkalinity exceeded water quality standards.

Little Snake Creek at Brackney, Pa., shows signs of a moderately-impaired biological community. Water quality data indicates elevated metals concentrations and a low alkalinity. Dissolved iron, total iron, and alkalinity exceeded water quality standards.

The Susquehanna River at Kirkwood, N.Y., appears to have a moderately-impaired biological community; however, high river flows prevented the collection of a representative macroinvertebrate sample. High water and strong currents forced the collection of macroinvertebrates near the bank, where it probably would not have been submerged during normal seasonal flows. Water quality data do not suggest any possible sources of degradation. Dissolved solids and total iron exceeded standards on one observation.

Apalachin Creek at Little Meadows, Pa., has a moderately-impaired macroinvertebrate community. Water Quality data do not suggest any possible sources of degradation.

A slightly-impaired biological community exists in Cayuta Creek. Elevated nutrient concentrations observed in Cayuta Creek indicate wastewater discharges from the Waverly sewage treatment facility may be affecting the macroinvertebrate community. Total iron exceeded standards on one occasion.

Troups Creek suffers from a slightly- to moderately-impaired biological community. Water quality data do not suggest any possible sources of degradation.

The Cowanesque River continues to show signs of a severely degraded macroinvertebrate community below the Cowanesque Reservoir. Increased phytoplankton production in the reservoir causes a shift to a filter feeding community downstream. Chemical data indicates that overall water quality in the Cowanesque River is good.

Acid mine drainage in the headwaters of the Tioga River contributes to poor water quality downstream to the Tioga-Hammond Reservoir. Water quality improves significantly below the Tioga-Hammond Reservoir; however, some impacts from the acid mine drainage may still be detected in the river. Elevated concentrations of sulfates and metals contribute to high WQI scores and a moderately-impaired macroinvertebrate community. Total iron exceeded standards on one occasion and manganese exceeded standards on four occasions.

A moderately-impaired biological community was found in Seeley Creek. The community was impaired by low streamflows that resulted in large portions of Seeley Creek being dry. Water quality in Seeley Creek is good.

Bentley Creek at Wellsburg, N.Y., has a moderately-impaired macroinvertebrate community. Water quality data do not suggest any possible sources of degradation.

The Chemung River is affected by wastewater discharges from the city of Elmira, N.Y., which contribute to high WQI values and a slightly-impaired biological community.

Wastewater discharges from the city of Binghamton, N.Y., affect the water quality of the Susquehanna River at Sayre, Pa. High nutrient concentrations contribute to elevated WQI scores and a slightly-impaired macroinvertebrate community. Total iron exceeded standards on one observation.

Pennsylvania-Maryland Border Streams

The Susquehanna River at Marietta, Pa., has a slightly-impaired macroinvertebrate community. Water quality data indicates elevated concentrations of sulfates and metals. Total iron exceeded standards on two occasions.

Scott Creek at Delta, Pa., is severely degraded by raw sewage discharges from Cardiff, Md. Concentrations of the chemical parameters were high in most of the samples, including four observations that exceeded water quality standards. Iron and dissolved solids were the most common parameters that exceeded standards. WQI values were extremely high, especially during periods of low flow. High streamflows and runoff events appear to dilute the pollutants resulting in lower WQI values. All WQI values were much higher than those for most other streams. The macroinvertebrate community is severely impaired by the raw sewage discharges and is dominated by pollution tolerant species.

Conowingo Creek continues to have elevated nutrient concentrations and high WQI values. Agriculture is the most prevalent land use in the watershed, and excess nutrients may enrich the stream. Total and dissolved nitrate concentrations were high throughout the sampling period, and on one occasion total nitrate exceeded water quality standards. Macroinvertebrate analysis indicates that a nonimpaired biological community exists in Conowingo Creek.

Ebaughs Creek at Stewartstown, Pa., has a slightly- to moderately-impaired macroinvertebrate community. Water quality data do not suggest any possible sources of degradation.

A slightly to moderately-impaired macroinvertebrate community exists in Deer Creek at Stewartstown, Pa. Water quality data do not suggest any possible sources of degradation.

Station summaries are presented in Tables 6 through 34. These include listings of parameters exceeding water quality standards, WQI values, and parameters that exceeded the 90th percentile at each station. Graphs are provided showing historical comparisons for water quality over the monitoring period.

ABBREVIATIONS USED IN TABLES 6 THROUGH 34

Abbrev.	Parameter
ALK	Alkalinity
BOD	Biochemical Oxygen Demand
COND	Conductivity
DAl	Dissolved Aluminum
TAl	Total Aluminum
TCl	Total Chloride
DFe	Dissolved Iron
TFe	Total Iron
DKN	Dissolved Kjeldahl N
TKN	Total Kjeldahl N
TMg	Total Magnesium
DMn	Dissolved Manganese
TMn	Total Manganese
DNH3	Dissolved Ammonia
TNH3	Total Ammonia
DNO2	Dissolved Nitrite
TNO2	Total Nitrite
DNO3	Dissolved Nitrate
TNO3	Total Nitrate
DO	Dissolved Oxygen
DP	Dissolved Phosphorus
TP	Total Phosphorus
DPO4	Dissolved Orthophosphate
TPO4	Total Orthophosphate
DS	Dissolved Solids
TS	Total Solids
TSO4	Total Sulfate
TOC	Total Org. Carbon
TURB	Total Turbidity

WQI--Water Quality Index

TABLE 6. Water Quality Summary Susquehanna River at Windsor, N.Y.

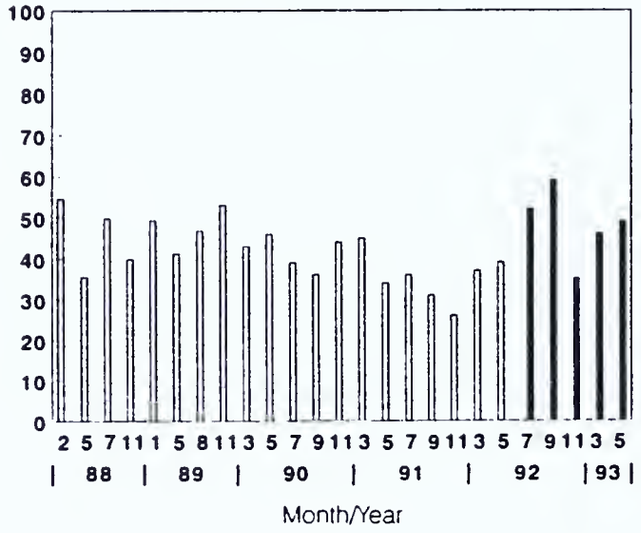
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
TFe	07/27/92	327 µg/l	300 µg/l	N.Y. health (water source) and aquatic
TFe	09/14/92	333 µg/l	300 µg/l	N.Y. health (water source) and aquatic

Date	WQI	Parameters Exceeding 90th Percentile							
07/27/92	52	Ca							
09/14/92	59	TNO2	TOC						
11/16/92	35								
03/22/93	46	BOD	DNO3	TNO3					
05/10/93	49	ACID							

Biological Summary

Number of taxa: 23
Diversity index: 3.74
RBP score: 46
RBP condition: Reference

Water Quality Index



Biological Index

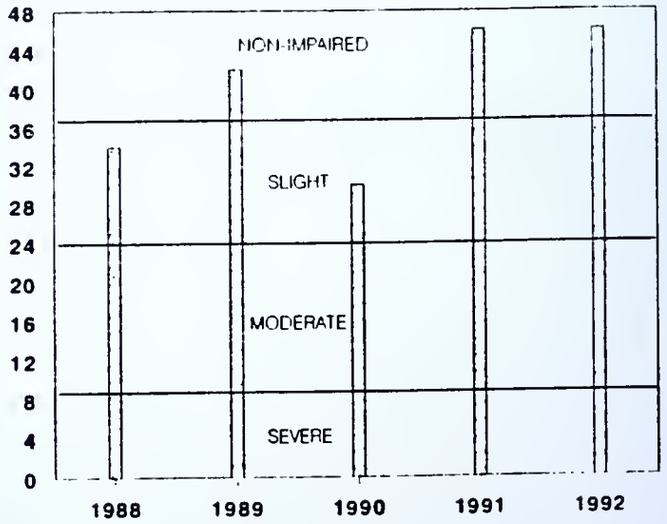


TABLE 7. Water Quality Summary Cascade Creek at Lanesboro, Pa.

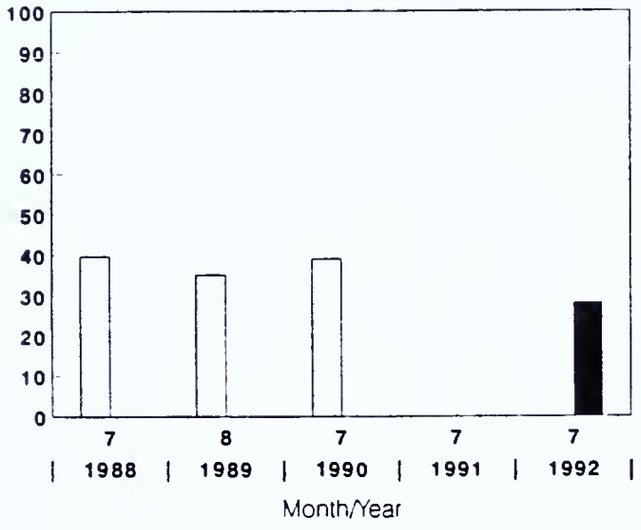
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
ALK	07/27/92	14 mg/l	20 mg/l	Pa. chronic fish
TFe	07/27/92	484 µg/l	300 µg/l	N.Y. health (water source) and aquatic

Date	WQ Index	Parameters Exceeding 90th Percentile							
07/27/92	52	DO	ALK	DFe					

Biological Summary

Number of taxa: 15
Diversity index: 2.65
RBP score: 16
RBP condition: Moderately impaired

Water Quality Index



Biological Index

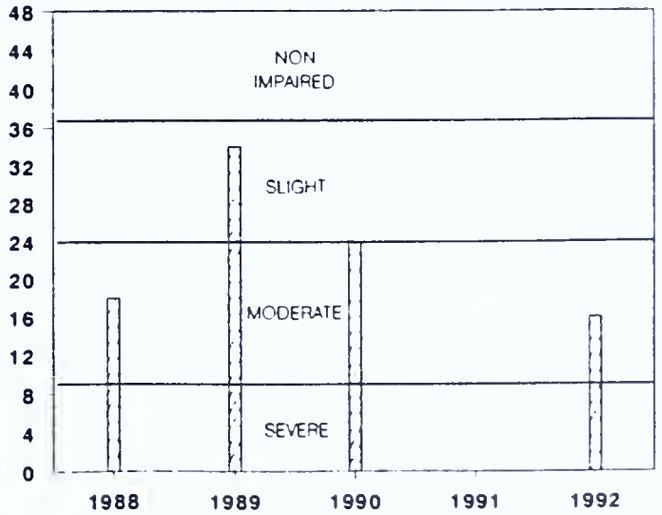


TABLE 8. Water Quality Summary Trowbridge Creek at Great Bend, Pa.

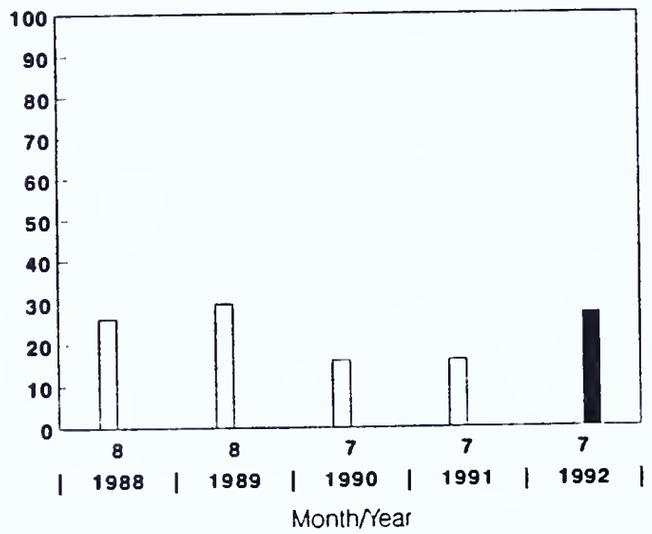
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
ALK	07/27/92	16 mg/l	20 mg/l	Pa. chronic fish
TFe	07/27/92	535 µg/l	300 µg/l	N.Y. health (water source) and aquatic

Date	WQI	Parameters Exceeding 90th Percentile							
07/27/92	27	ALK	TFe						

Biological Summary

Number of taxa:	16
Diversity index:	3.24
RBP score:	28
RBP condition:	Slightly impaired

Water Quality Index



Biological Index

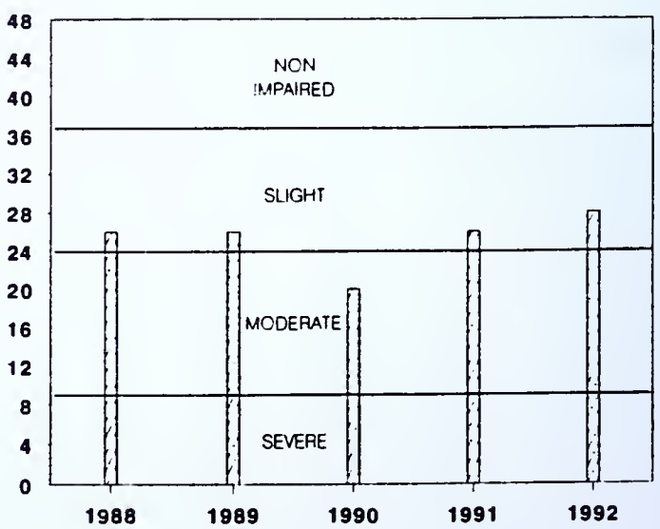


TABLE 9. Water Quality Summary Snake Creek at Brookdale, Pa.

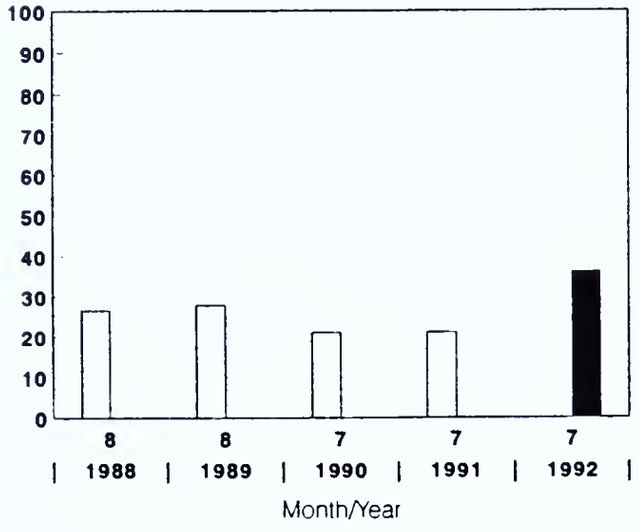
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
TFe	07/27/92	414 µg/l	300 µg/l	N.Y. health (water source) and aquatic

Date	WQI	Parameters Exceeding 90th Percentile							
07/27/92	36	DFe							

Biological Summary

Number of taxa: 26
Diversity index: 3.98
RBP score: 46
RBP condition: Reference

Water Quality Index



Biological Index

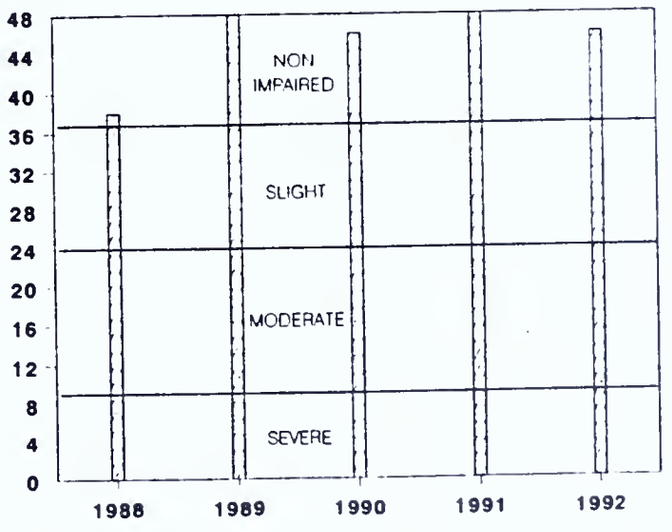


TABLE 10. Water Quality Summary Little Snake Creek at Brackney, Pa.

Parameters Exceeding Standards

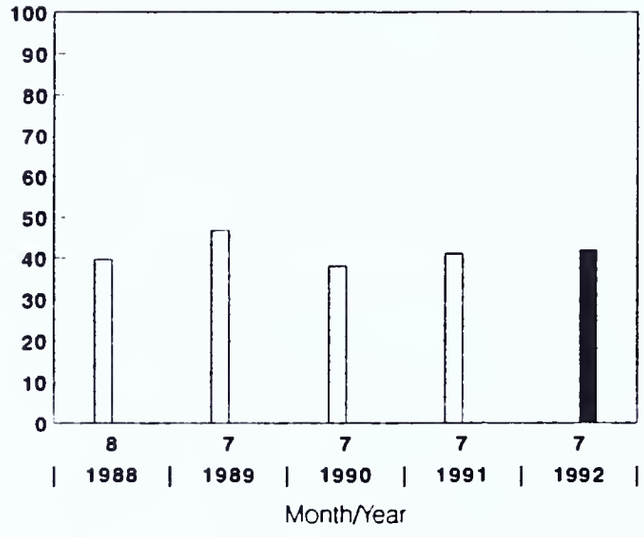
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
ALK	07/28/92	18 mg/l	20 mg/l	Pa. chronic fish
TFe	07/28/92	852 µg/l	300 µg/l	N.Y. health (water source) and aquatic
DFe	07/28/92	469 µg/l	300 µg/l	N.Y. health (water source) and aquatic
TFe	07/28/92	469 µg/l	300 µg/l	Pa. chronic fish

Date	WQI	Parameters Exceeding 90th Percentile							
07/27/92	42	ALK	TOC	DFe	TFe				

Biological Summary

Number of taxa: 22
Diversity index: 3.16
RBP score: 22
RBP condition: Moderately impaired

Water Quality Index



Biological Index

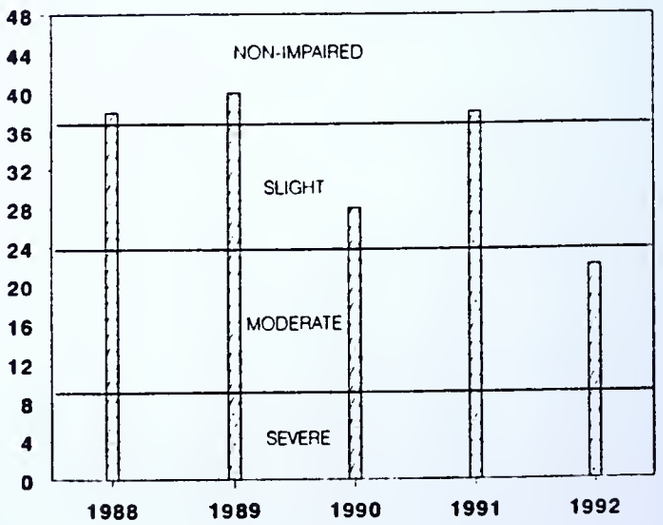


TABLE 11. Water Quality Summary Susquehanna River at Kirkwood, N.Y.

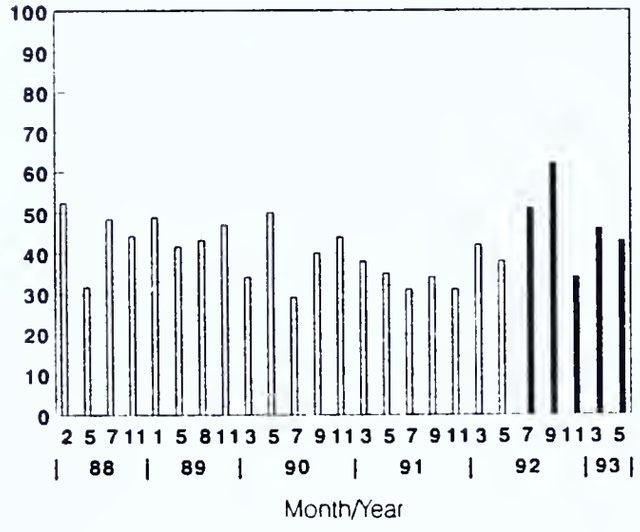
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
TFe	07/27/92	560 µg/l	300 µg/l	N.Y. health (water source) and aquatic
DS	09/14/92	1,482 mg/l	500 mg/l	N.Y. health (water source) and aquatic
DS	09/14/92	1,482 mg/l	750 mg/l	Pa. water supply

Date	WQI	Parameters Exceeding 90th Percentile							
07/27/92	51	TOC	TFe						
09/14/92	62	DS	TS	DKN	SO4				
11/16/92	34								
03/22/93	46	BOD	DNO3	TNO3					
05/10/93	46								

Biological Summary

Number of taxa: 9
Diversity index: 2.80
RBP score: 20
RBP condition: Moderately impaired

Water Quality Index



Biological Index

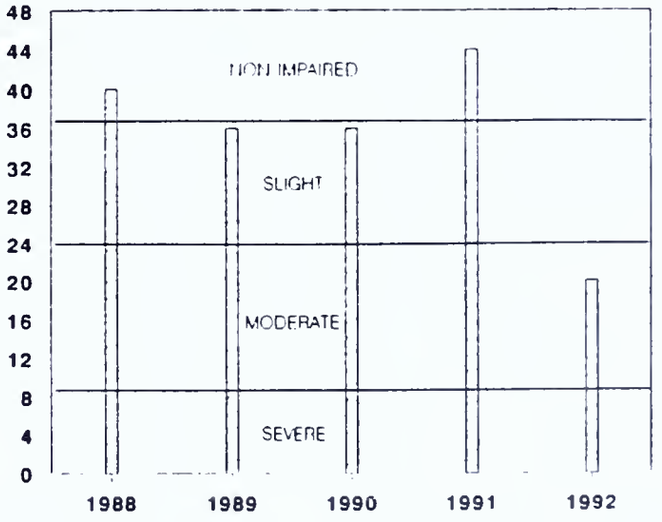


TABLE 12. Water Quality Summary Choconut Creek at Vestal Center, N.Y.

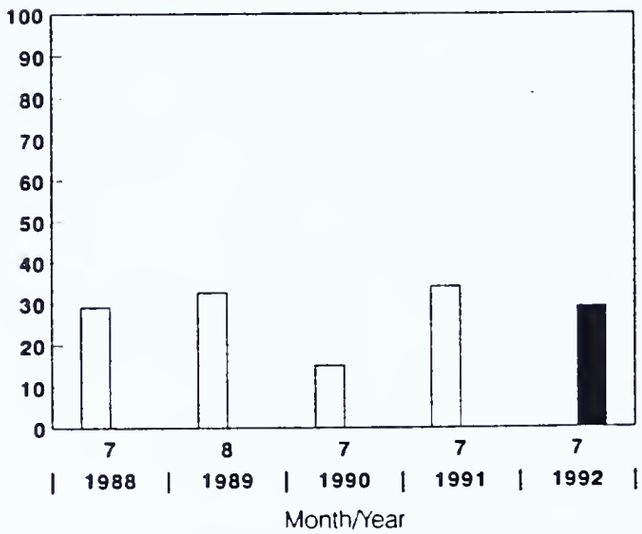
Parameters Exceeding Standards				
Parameter	Date	Value	Standard	State
None				

Date	WQI	Parameters Exceeding 90th Percentile							
07/27/92	29	ALK							

Biological Summary

Number of taxa: 22
Diversity index: 3.74
RBP score: 34
RBP condition: Slightly impaired

Water Quality Index



Biological Index

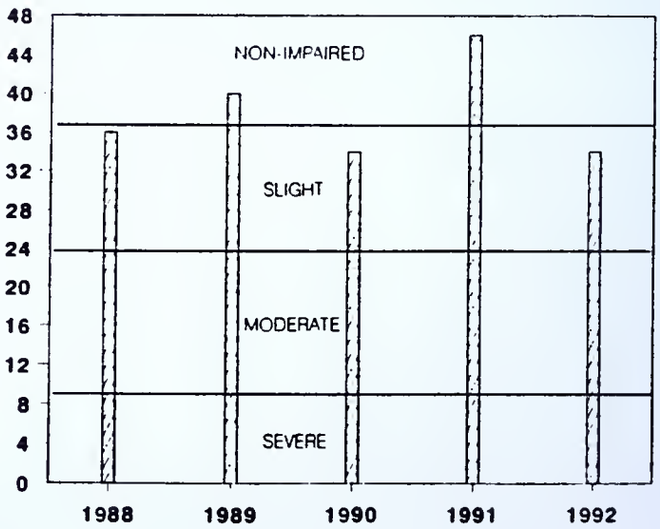


TABLE 13. Water Quality Summary Apalachin Creek at Little Meadows, Pa.

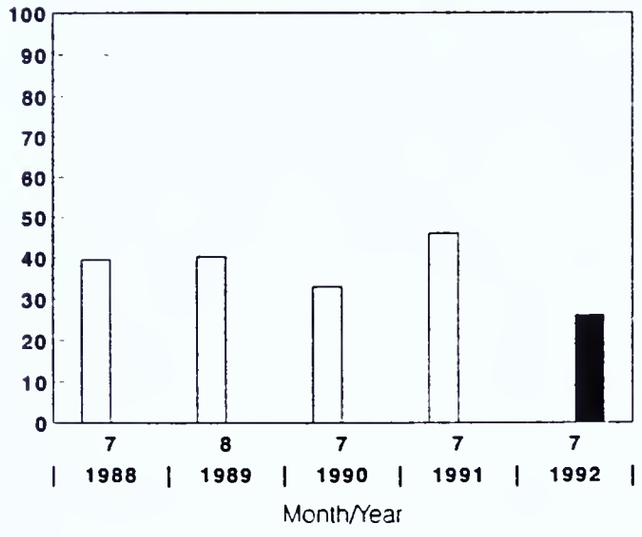
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
None				

Date	WQI	Parameters Exceeding 90th Percentile							
07/28/92	26								

Biological Summary

Number of taxa: 17
Diversity index: 2.49
RBP score: 18
RBP condition: Moderately impaired

Water Quality Index



Biological Index

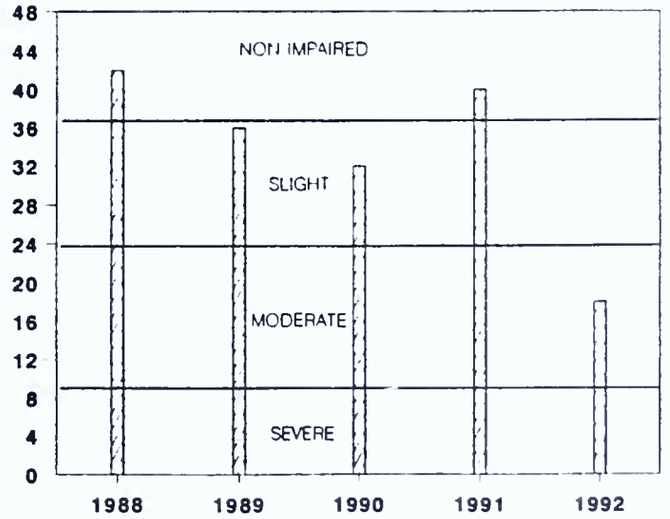


TABLE 14. Water Quality Summary Wappasening Creek at Nichols, N.Y.

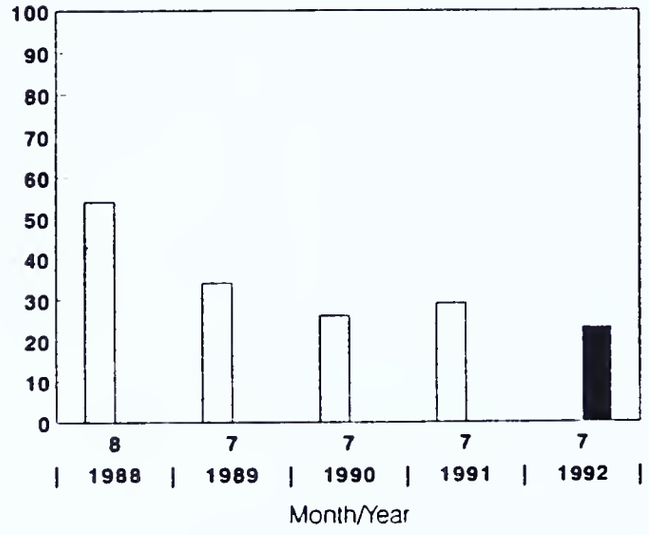
Parameters Exceeding Standards				
Parameter	Date	Value	Standard	State
None				

Date	WQI	Parameters Exceeding 90th Percentile							
07/28/92	23								

Biological Summary

Number of taxa: 27
Diversity index: 3.31
RBP score: 30
RBP condition: Slightly impaired

Water Quality Index



Biological Index

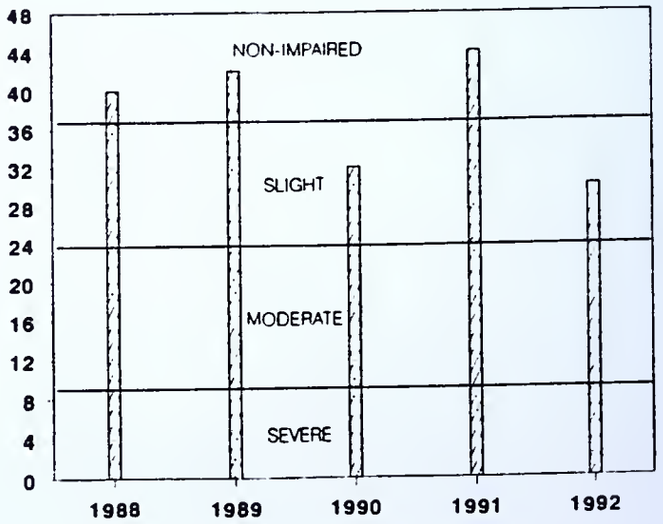


TABLE 15. Water Quality Summary Cayuta Creek at Waverly, N.Y.

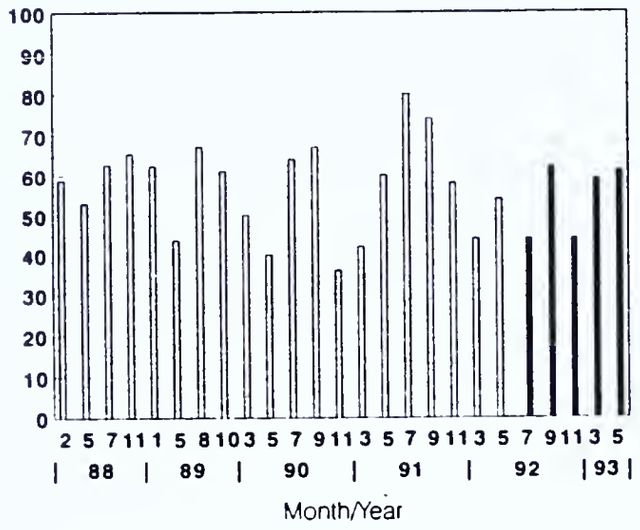
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
TFe	07/28/92	574 µg/l	300 µg/l	N.Y. health (water source) and aquatic

Date	WQI	Parameters Exceeding 90th Percentile							
07/28/92	44	DS	TS	TFe					
09/14/92	62	DP	TP	DPO4	TPO4	DAl			
11/16/92	44	DPO4							
03/22/93	59	COND	DS	TS	DP	TP	DPO4	TPO4	Ca
		TMg	TCl						
05/10/93	61	DO	DP	TP	DPO4	TPO4	TCl		

Biological Summary

Number of taxa: 18
Diversity index: 3.63
RBP score: 30
RBP condition: Slightly impaired

Water Quality Index



Biological Index

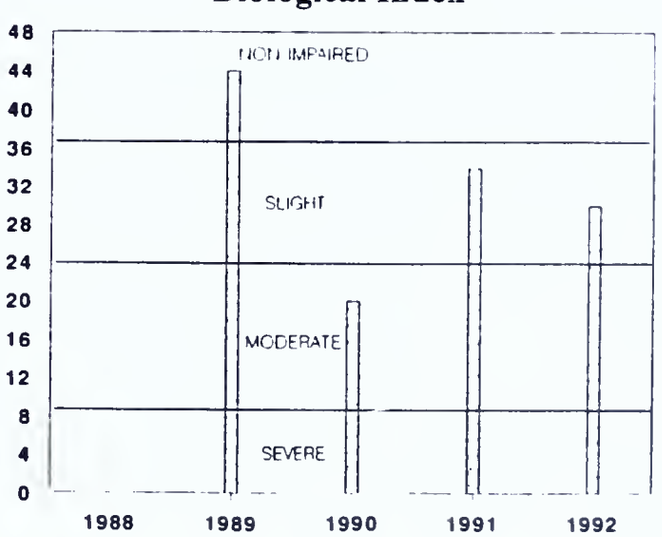


TABLE 16. Water Quality Summary North Fork Cowanesque River at North Fork, Pa.

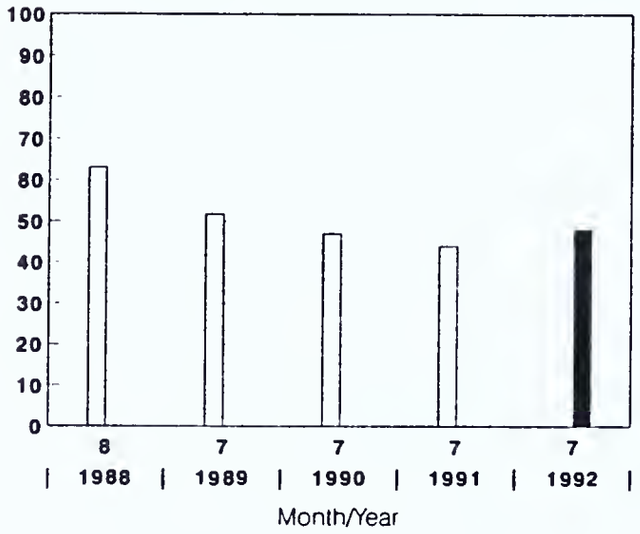
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
None				

Date	WQI	Parameters Exceeding 90th Percentile							
07/30/92	48	DNO3	TNO3	DP	TP	DPO4	TPO4		

Biological Summary

Number of taxa: 23
Diversity index: 3.73
RBP score: 38
RBP condition: Nonimpaired

Water Quality Index



Biological Index

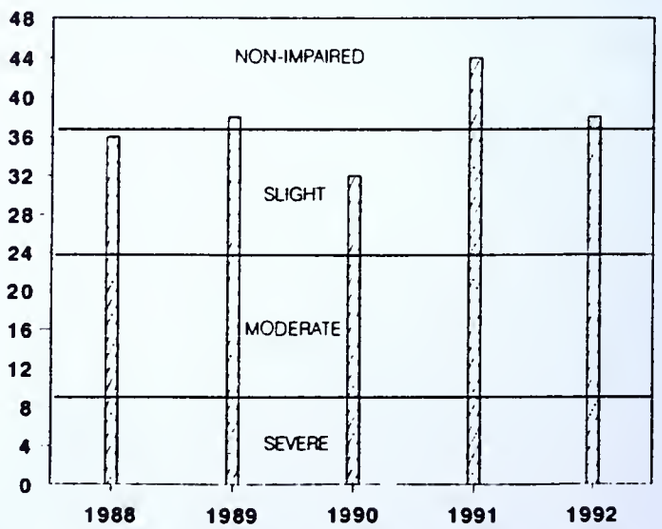


TABLE 17. Water Quality Summary Troups Creek at Austinburg, Pa.

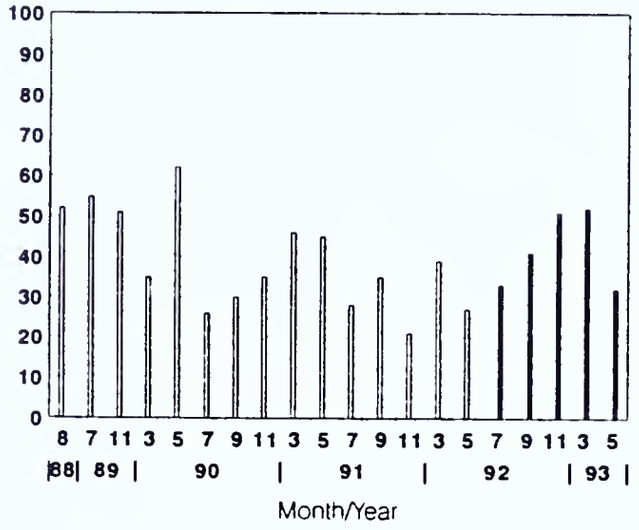
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
TFe	11/17/92	436 µg/l	300 µg/l	N.Y. health (water source) and aquatic
TFe	03/23/93	302 µg/l	300 µg/l	N.Y. health (water source) and aquatic

Date	WQI	Parameters Exceeding 90th Percentile							
07/30/92	33	TMg							
09/15/92	41	DAl	TAl						
11/17/92	51	TURB							
03/23/93	52	TCl	TURB						
05/11/93	32	DO	ACID	TPO4					

Biological Summary

Number of taxa: 19
Diversity index: 3.58
RBP score: 26
RBP condition: Slightly impaired

Water Quality Index



Biological Index

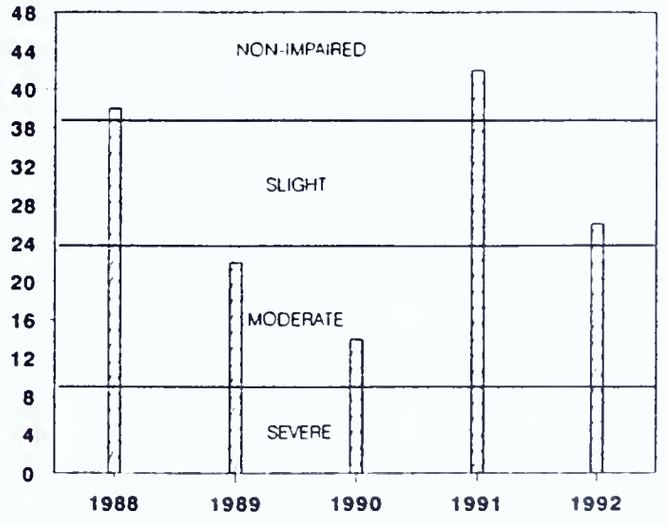


TABLE 18. Water Quality Summary Cowanesque River at Lawrenceville, Pa.

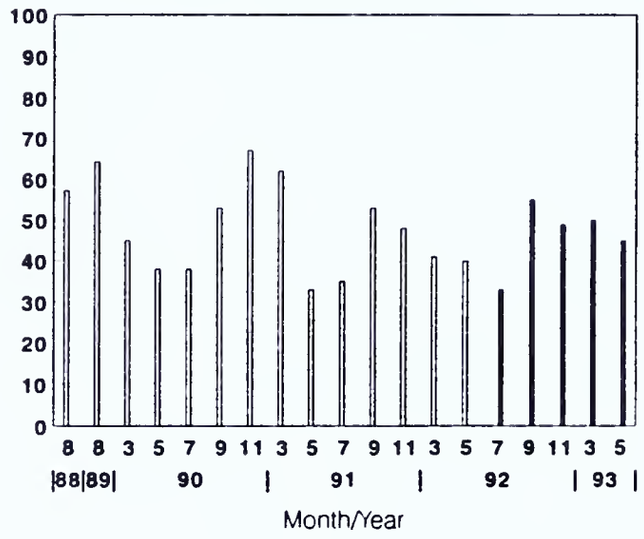
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
None				

Date	WQI	Parameters Exceeding 90th Percentile							
07/29/92	33	TSO4							
09/15/92	55	BOD	TKN	TOC	DMn	TMn	DAl	TAl	
11/17/92	49	DNH3	DNO2	TNO2	DKN	TKN			
03/23/93	50	BOD	DNO3	TNO3	TMg				
05/11/93	45	ACID							

Biological Summary

Number of taxa: 6
Diversity index: 1.44
RBP score: 6
RBP condition: Severely impaired

Water Quality Index



Biological Index

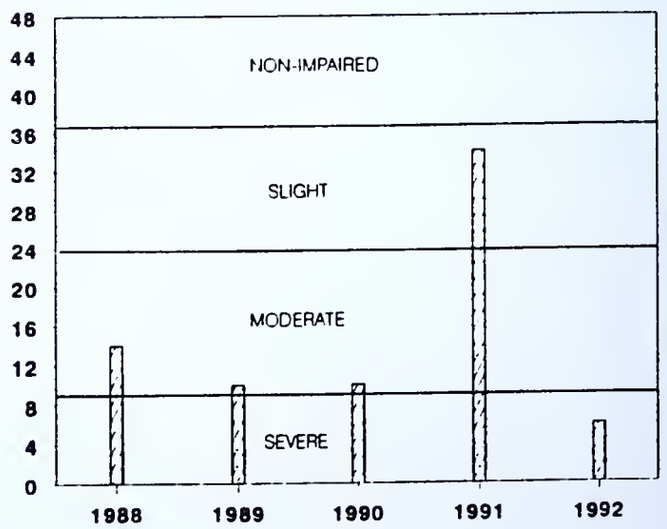


TABLE 19. Water Quality Summary Tioga River at Lindley, N.Y.

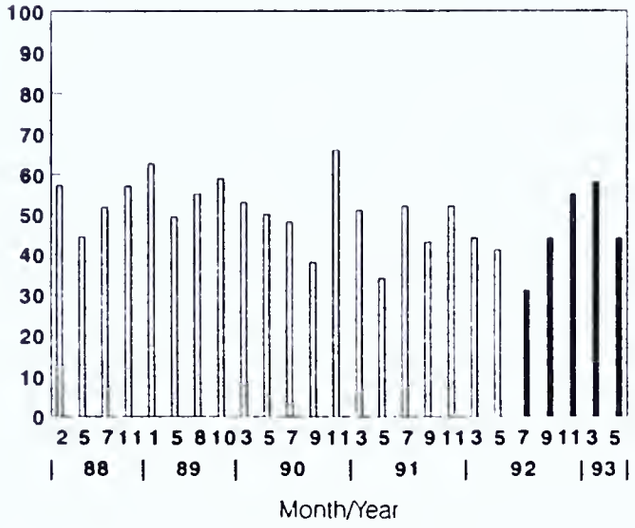
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
DMn	03/23/93	569 µg/l	300 µg/l	N.Y. health (water source)
TMn	03/23/93	604 µg/l	300 µg/l	N.Y. health (water source)
TFe	05/11/93	450 µg/l	300 µg/l	N.Y. health (water source) and aquatic
DMn	05/11/93	389 µg/l	300 µg/l	N.Y. health (water source)
TMn	05/11/93	448 µg/l	300 µg/l	N.Y. health (water source)

Date	WQI	Parameters Exceeding 90th Percentile							
07/29/92	31	TSO4	DMn	TMn					
09/15/92	44	TSO4							
11/17/92	55	DNH3	TNH3	DKN	TKN	TURB			
03/23/93	58	ALK	DNH3	TNH3	TSO4	DMn	TMn		
05/11/93	44	TURB	DMn	TMn					

Biological Summary

Number of taxa: 15
Diversity index: 3.06
RBP score: 18
RBP condition: Moderately impaired

Water Quality Index



Biological Index

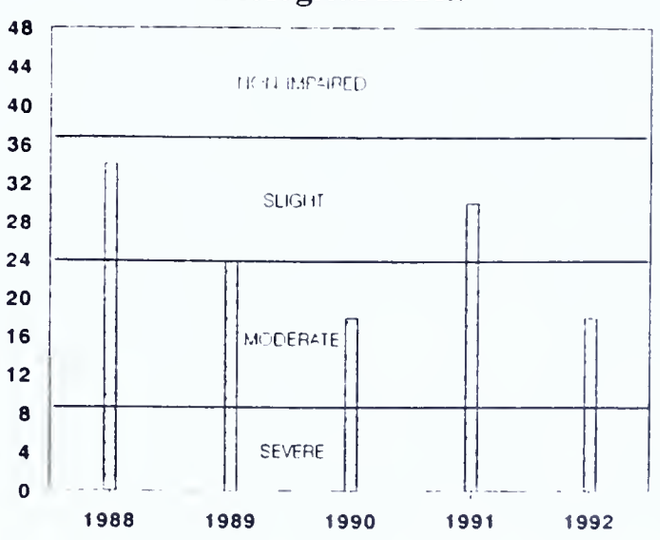


TABLE 20. Water Quality Summary Seeley Creek at Seeley Creek, N.Y.

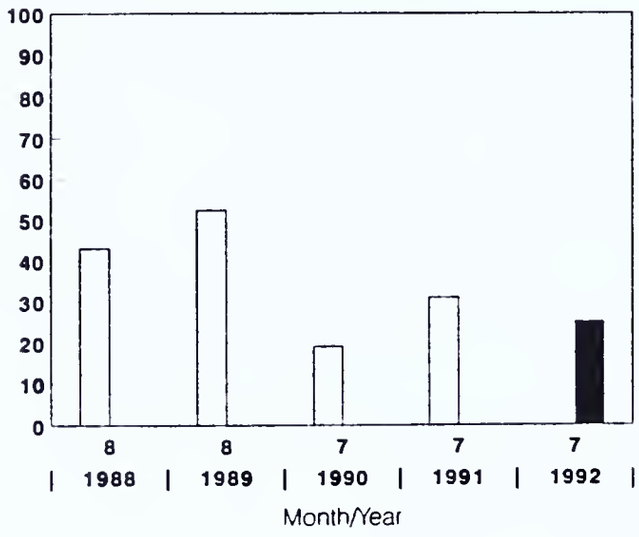
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
None				

Date	WQI	Parameters Exceeding 90th Percentile							
07/29/92	25	Ca							

Biological Summary

Number of taxa: 16
Diversity index: 3.07
RBP score: 22
RBP condition: Moderately impaired

Water Quality Index



Biological Index

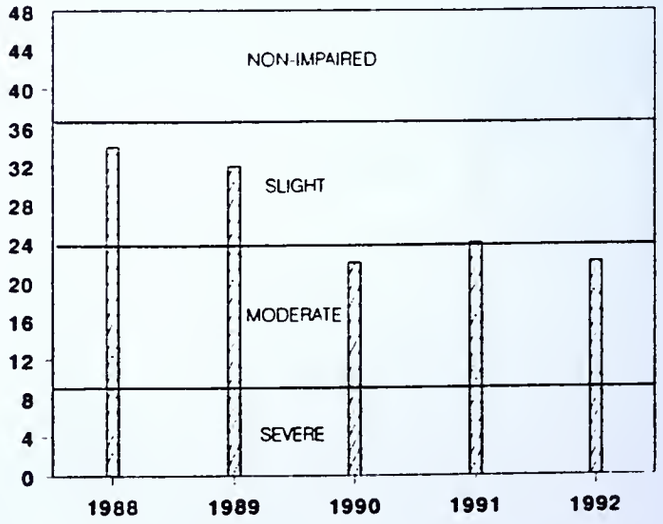


TABLE 21. Water Quality Summary South Creek at Fassett, Pa.

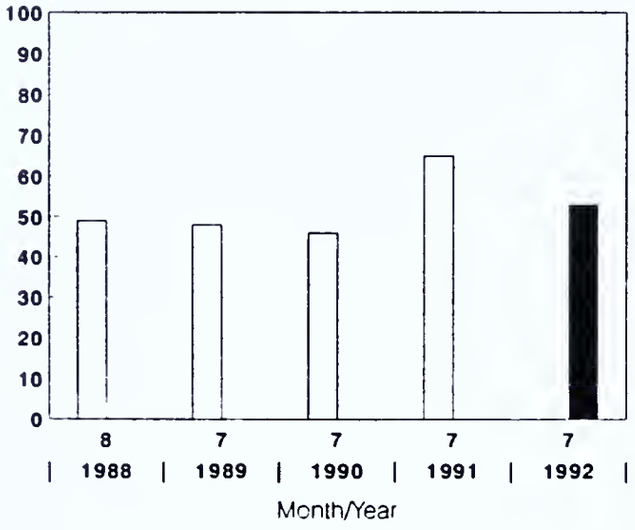
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
TFe	07/29/92	749 µg/l	300 µg/l	N.Y. health (water source) and aquatic

Date	WQI	Parameters Exceeding 90th Percentile							
07/27/92	53	DFe	TFe						

Biological Summary

Number of taxa: 28
Diversity index: 3.88
RBP score: 36
RBP condition: Slightly impaired

Water Quality Index



Biological Index

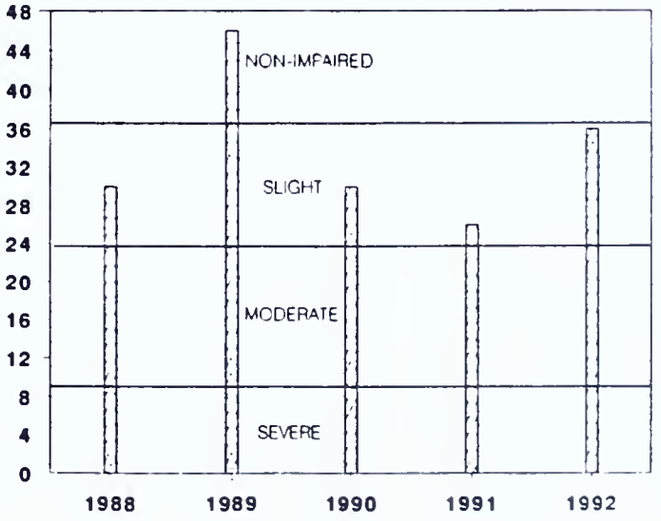


TABLE 22. Water Quality Summary Bentley Creek at Wellsburg, N.Y.

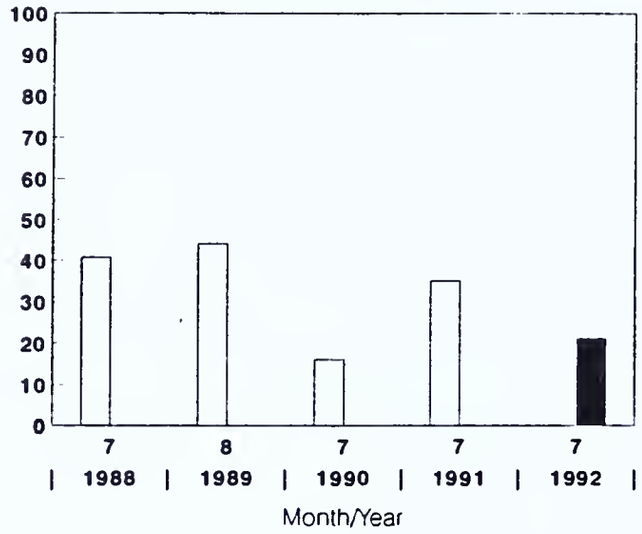
Parameters Exceeding Standards				
Parameter	Date	Value	Standard	State
None				

Date	WQI	Parameters Exceeding 90th Percentile							
07/2992	21								

Biological Summary

Number of taxa: 15
Diversity index: 3.26
RBP score: 20
RBP condition: Moderately impaired

Water Quality Index



Biological Index

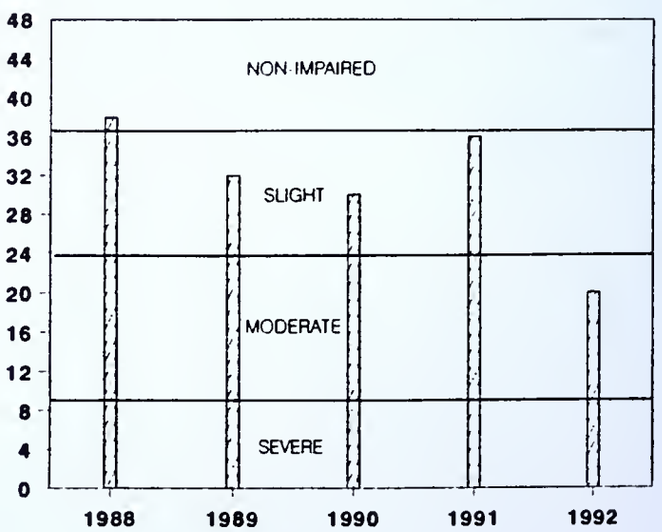


TABLE 23. Water Quality Summary Chemung River at Chemung, N.Y.

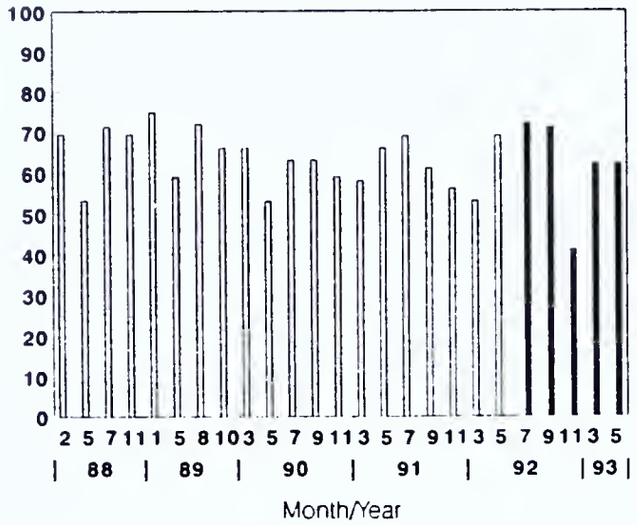
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
TFe	07/29/92	2,380 µg/l	1,500 µg/l	Pa. chronic fish
TFe	07/29/92	2,380 µg/l	300 µg/l	N.Y. health (water source) and aquatic
TFe	09/14/92	449 µg/l	300 µg/l	N.Y. health (water source) and aquatic

Date	**WQI**	**Parameters Exceeding 90th Percentile**							
07/29/92	72	DS	TS	TNO2	DKN	TP	TURB	TFe	TMn
		TAl							
09/14/92	71	COND	TMg	DAl	TAl				
11/16/92	41								
03/22/93	62	COND	BOD	ACID	DS	TS	DNO2	TNO2	DP
		TCa	TMg	TCl	DMn				
05/10/93	62	COND	DO	TKN					

Biological Summary

Number of taxa: 19
Diversity index: 3.60
RBP score: 30
RBP condition: Slightly impaired

Water Quality Index



Biological Index

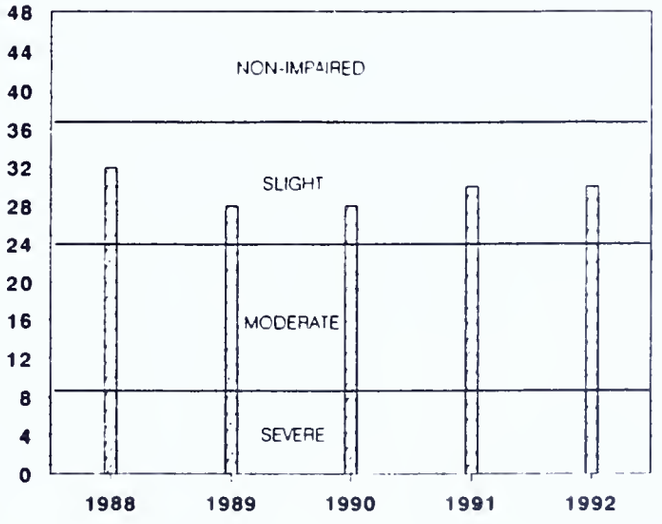


TABLE 24. Water Quality Summary Susquehanna River at Sayre, Pa.

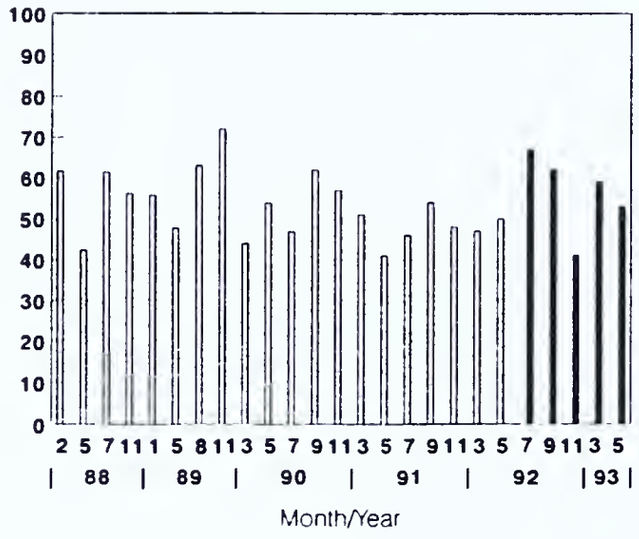
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
TFe	09/14/92	476 µg/l	300 µg/l	N.Y. health (water source) and aquatic

Date	WQI	Parameters Exceeding 90th Percentile							
07/28/92	57								
09/14/92	62	DKN	TKN	DAl	TAl				
11/16/92	41								
03/22/93	59	COND	DNH3	TNH3	DNO3	TNO3	TCa	TCl	
05/10/93	53	DO	DNO2	TNO2					

Biological Summary

Number of taxa: 19
Diversity index: 3.46
RBP score: 34
RBP condition: Slightly impaired

Water Quality Index



Biological Index

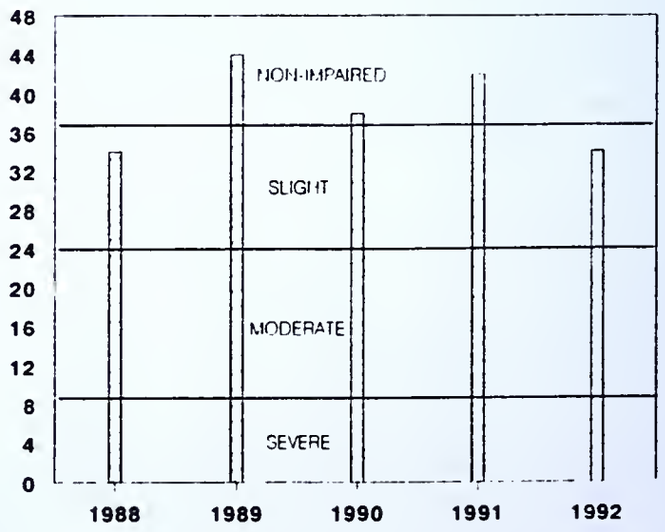


TABLE 25. Water Quality Summary South Branch Conewago Creek at Bandanna, Pa.

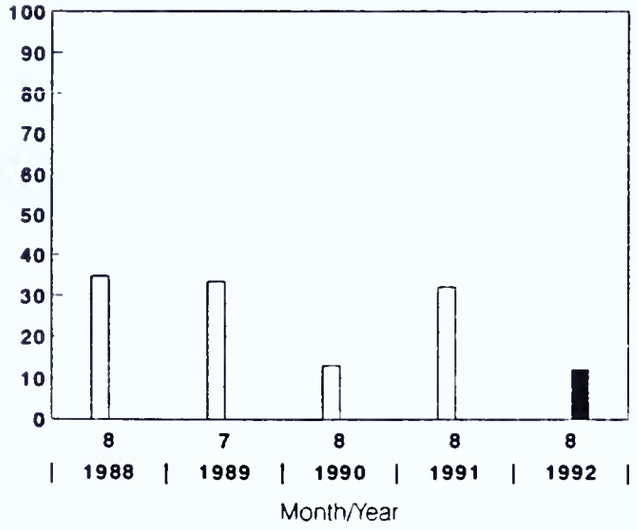
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
None				

Date	WQI	Parameters Exceeding 90th Percentile							
08/03/92	12								

Biological Summary

Number of taxa: 23
Diversity index: 3.81
RBP score: 46
RBP condition: Reference

Water Quality Index



Biological Index

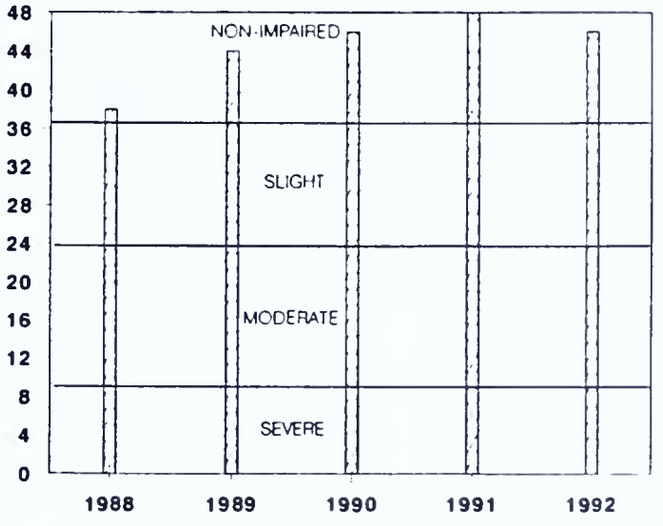


TABLE 26. Water Quality Summary Long Arm Creek at Bandanna, Pa.

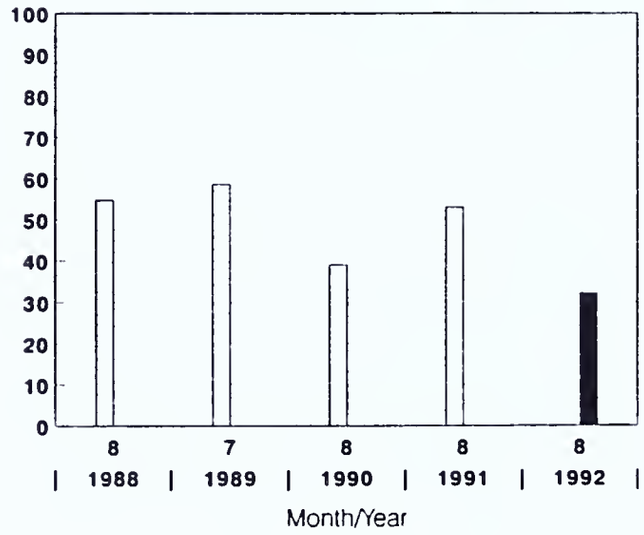
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
None				

Date	WQI	Parameters Exceeding 90th Percentile							
08/03/92	32								

Biological Summary

Number of taxa: 14
Diversity index: 2.86
RBP score: 30
RBP condition: Slightly impaired

Water Quality Index



Biological Index

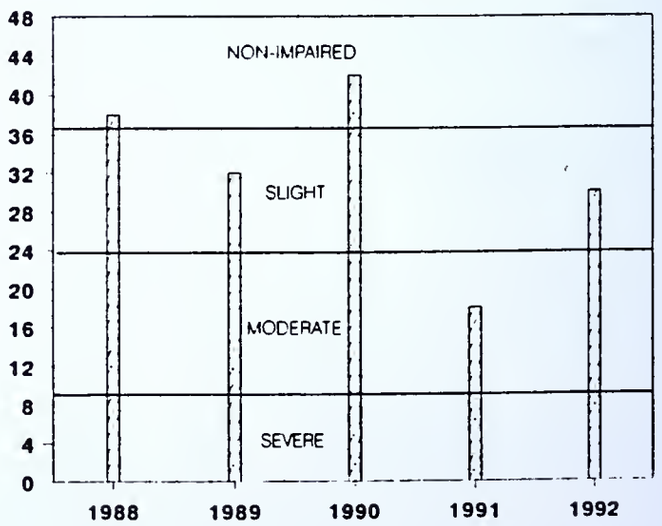


TABLE 27. Water Quality Summary Susquehanna River at Marietta, Pa.

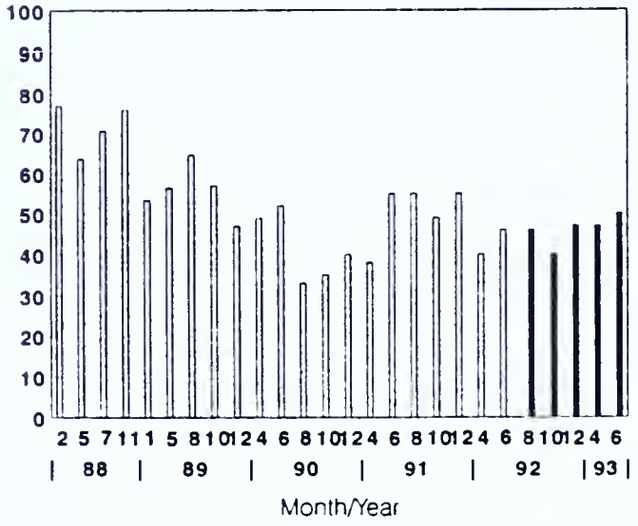
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
TFe	08/06/92	2,070 µg/l	1,500 µg/l	Pa. chronic fish
TFe	04/21/93	3,850 µg/l	1,500 µg/l	Pa. chronic fish

Date	WQI	Parameters Exceeding 90th Percentile							
08/06/92	46	TMn	TAl						
10/15/92	40	TSO4							
12/23/92	47	ACID	DMn	DAl					
04/21/93	47	TURB	TFe	TMn	TAl				
06/23/93	50	COND	DO	TCa	TSO4				

Biological Summary

Number of taxa: 14
Diversity index: 3.30
RBP score: 30
RBP condition: Slightly impaired

Water Quality Index



Biological Index

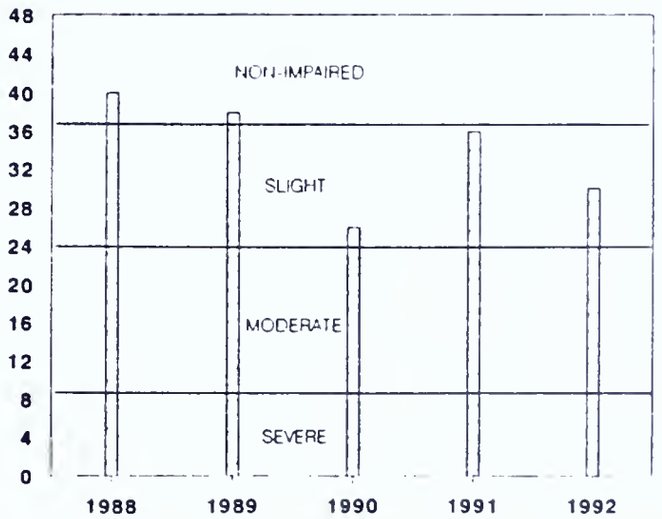


TABLE 28. Water Quality Summary Scott Creek at Delta, Pa.

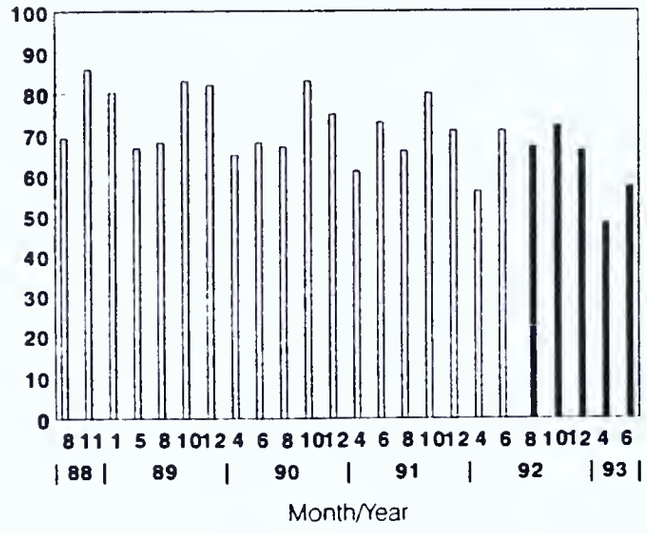
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
DFe	10/14/92	1,120 µg/l	300 µg/l	Pa. chronic fish
TFe	10/14/92	2,250 µg/l	1,500 µg/l	Pa. chronic fish
DS	12/21/92	1,444 mg/l	750 mg/l	Pa. water supply
DFe	04/19/93	658 µg/l	300 µg/l	Pa. chronic fish

Date	WQI	Parameters Exceeding 90th Percentile							
08/05/92	67	DO	BOD	DNO2	TNO2	TMg	DMn		
10/14/92	72	COND	DS	TS	DNH3	TNH3	DNO2	DKN	DFe
		TKN	TP	TPO4	TOC	TCa	TMg	TCl	TFe
		DMn	TMn						
12/21/92	66	DS	TS	DNH3	TNH3	TMg	TSO4	DMn	
04/19/93	48	DFe	DMn						
06/21/93	57	DO	DNO2	TNO2					

Biological Summary

Number of taxa: 8
Diversity index: 1.55
RBP score: 6
RBP condition: Slightly impaired

Water Quality Index



Biological Index

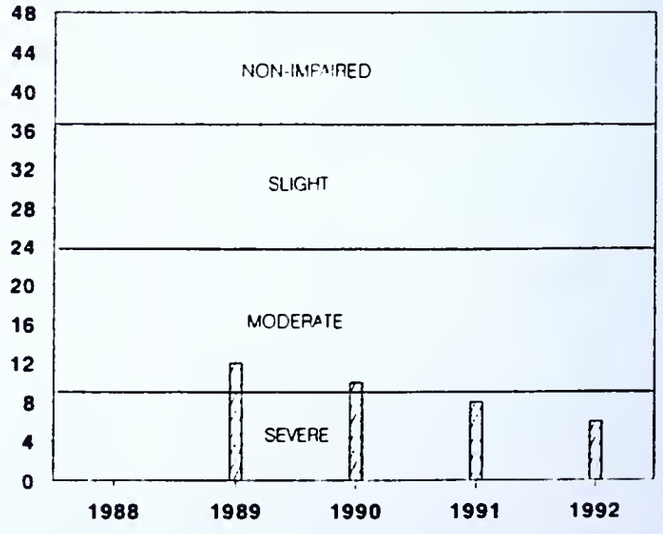


TABLE 29. Water Quality Summary Conowingo Creek at Pleasant Grove, Pa.

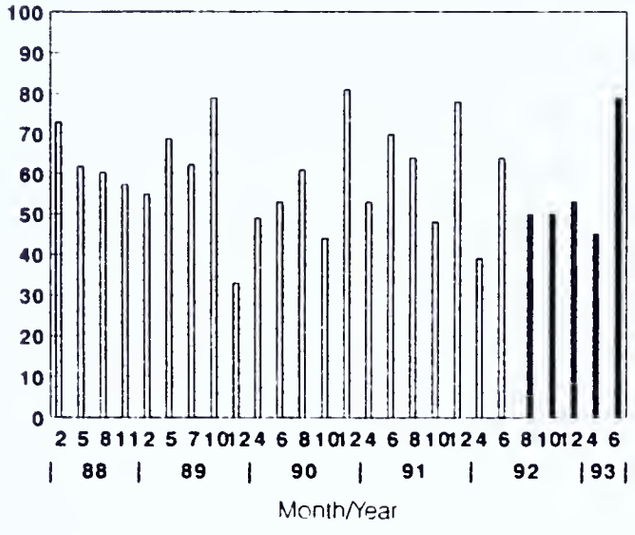
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
TNO3	06/22/93	10.5 mg/l	10.0 mg/l	Pa. water supply
TFe	06/22/93	12,600 µg/l	1,500 µg/l	Pa. chronic fish

Date	WQI	Parameters Exceeding 90th Percentile							
08/06/92	50	TFe							
10/14/92	50	DPO4							
12/22/92	53	DNO3	TNO3	DAl					
04/20/93	45	DNO3	TNO3						
06/22/93	79	DO	BOD	DS	TS	DNH3	TNH3	DNO2	TPO4
		DNO3	TNO3	DKN	TKN	DP	TP	DPO4	TOC
		TURB	TFe	TMn	TAl				

Biological Summary

Number of taxa: 18
Diversity index: 3.83
RBP score: 42
RBP condition: Nonimpaired

Water Quality Index



Biological Index

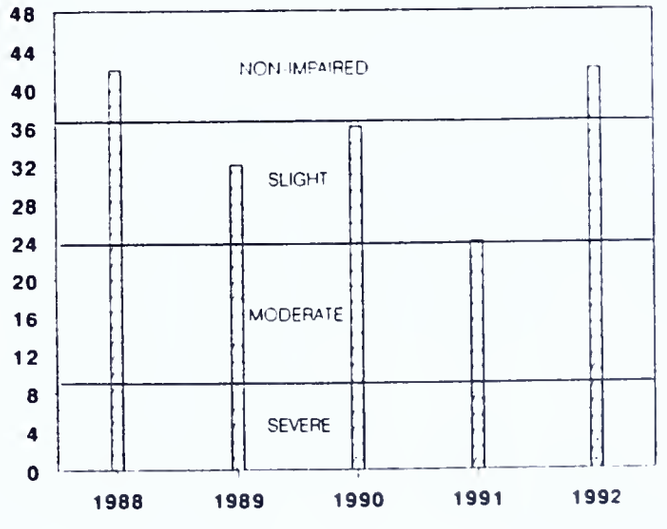


TABLE 30. Water Quality Summary Octoraro Creek at Rising Sun, Md.

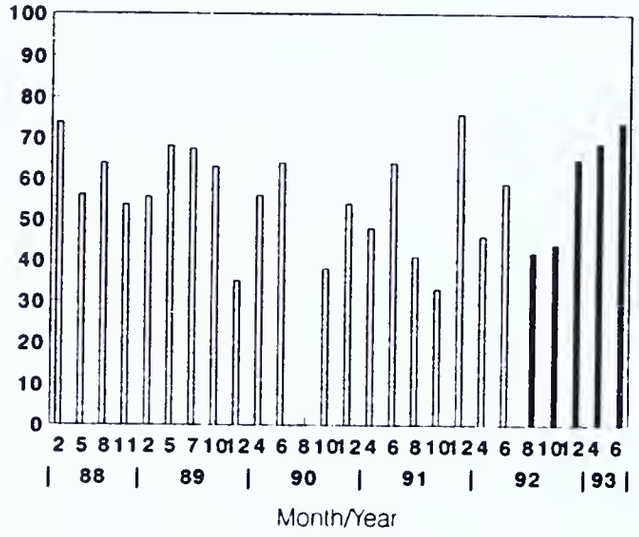
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
TFe	04/20/93	2,740 µg/l	1,500 µg/l	Pa. chronic fish
TFe	06/22/93	1,710 µg/l	1,500 µg/l	Pa. chronic fish

Date	WQI	Parameters Exceeding 90th Percentile							
08/05/92	42	ACID							
10/14/92	44	TMg							
12/22/92	65	DNH3	TNH3	DKN	TKN	DP	TP	DPO4	TPO4
		TURB	DFe	DAl					
04/20/93	69	TNO2	DP	TP	DPO4	TPO4	TURB	TFe	TAl
06/22/93	74	DNO2	TNO2	DNO3	TNO3	DKN	TKN	TPO4	TOC
		DFe							

Biological Summary

Number of taxa: 20
Diversity index: 3.19
RBP score: 42
RBP condition: Nonimpaired

Water Quality Index



Biological Index

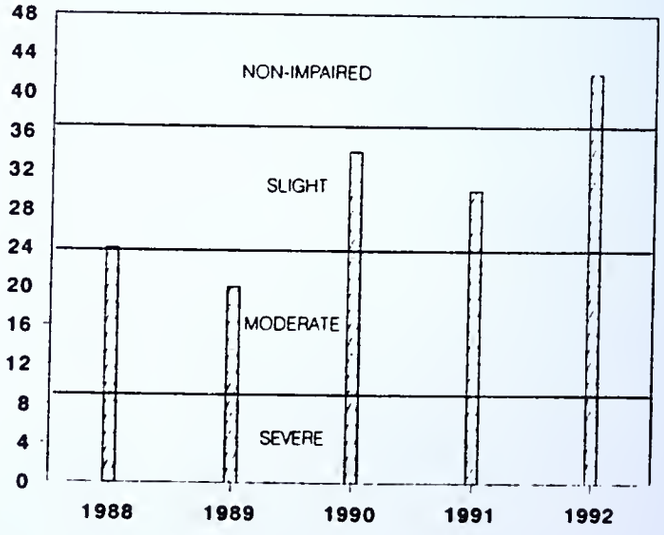


TABLE 31. Water Quality Summary Ebaughs Creek at Stewartstown, Pa.

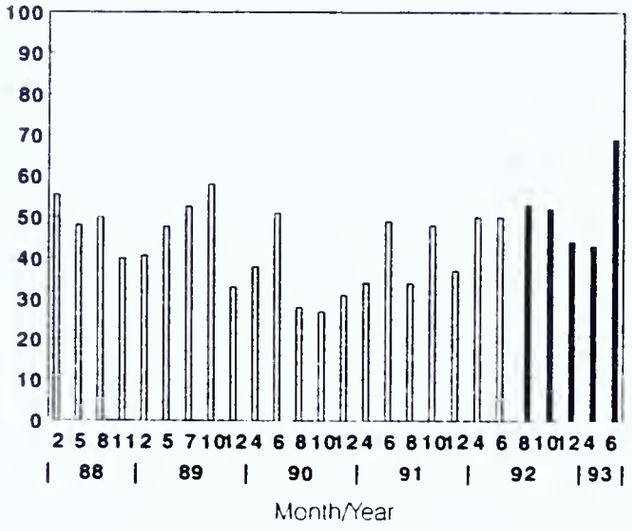
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
None				

Date	WQI	Parameters Exceeding 90th Percentile							
08/04/92	53	TCl							
10/13/92	52	COND	DS	TS	TCa	TCl			
12/21/92	44	ALK	TCl	DAl					
04/19/93	43	ALK							
06/21/93	69	COND	DS	TS	DP	DPO4	TCa	TCl	

Biological Summary

Number of taxa: 12
Diversity index: 2.81
RBP score: 24
RBP condition: Slightly impaired

Water Quality Index



Biological Index

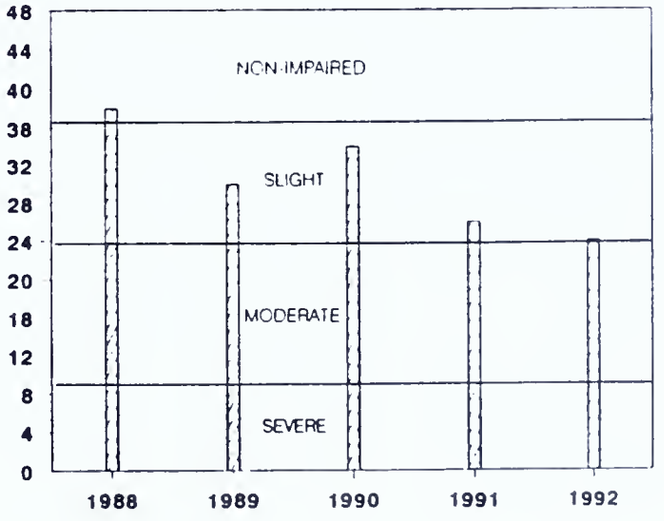


TABLE 32. Water Quality Summary Deer Creek at Gorsuch Mills, Md.

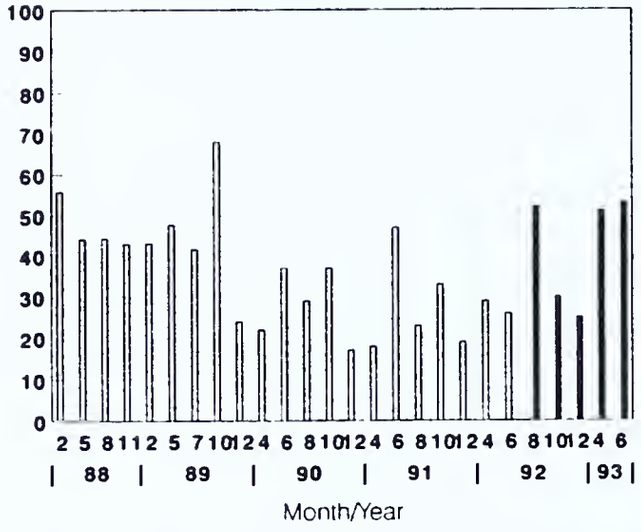
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
None				

Date	WQI	Parameters Exceeding 90th Percentile							
08/04/92	52								
10/13/92	30								
12/21/92	25								
04/19/93	51	DNH3	TNH3	DNO3	TNO3	DKN	TKN	TOC	
06/21/93	53	DP							

Biological Summary

Number of taxa: 14
Diversity index: 2.83
RBP score: 24
RBP condition: Slightly impaired

Water Quality Index



Biological Index

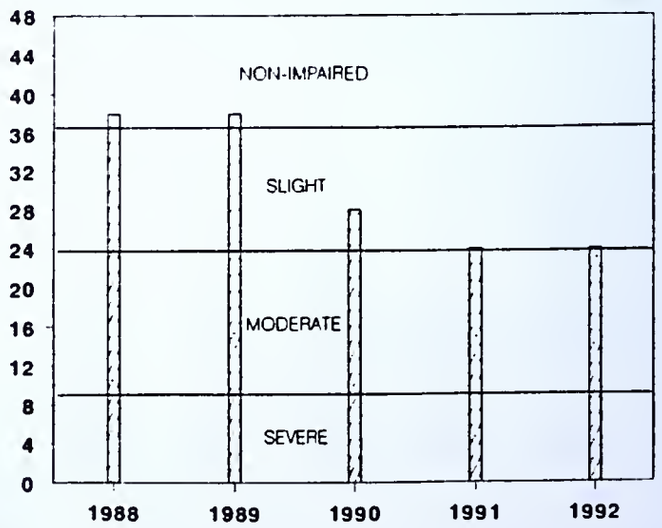


TABLE 33. Water Quality Summary Big Branch Deer Creek at Fawn Grove, Pa.

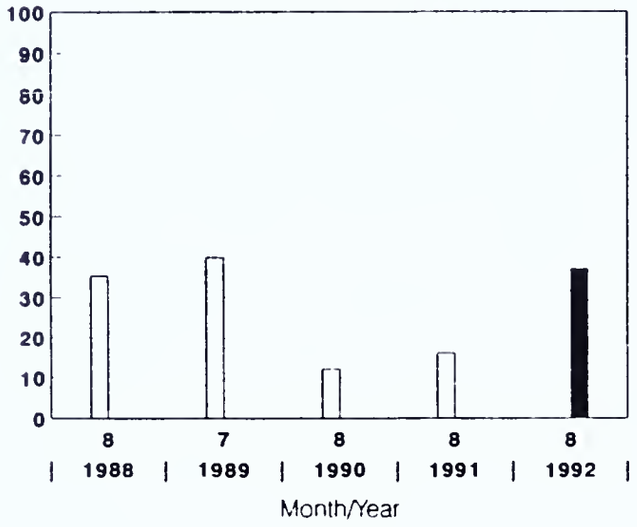
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
None				

Date	WQI	Parameters Exceeding 90th Percentile							
08/04/92	37								

Biological Summary

Number of taxa: 24
Diversity index: 4.10
RBP score: 48
RBP condition: Nonimpaired

Water Quality Index



Biological Index

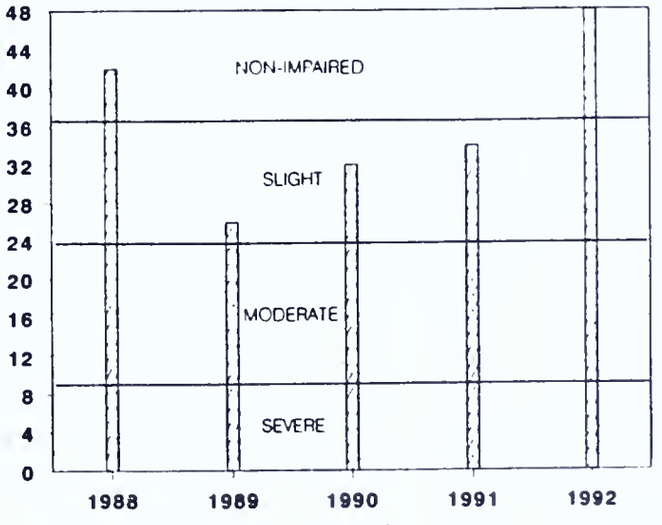


TABLE 34. Water Quality Summary Falling Branch Deer Creek at Fawn Grove, Pa.

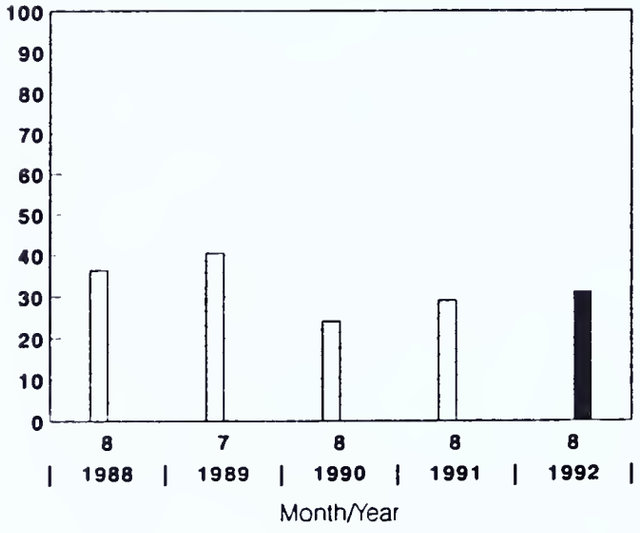
Parameters Exceeding Standards				
Parameter	Date	Value	Standard	State
None				

Date	WQI	Parameters Exceeding 90th Percentile							
08/04/92	31								

Biological Summary

Number of taxa: 17
Diversity index: 3.14
RBP score: 40
RBP condition: Nonimpaired

Water Quality Index



Biological Index

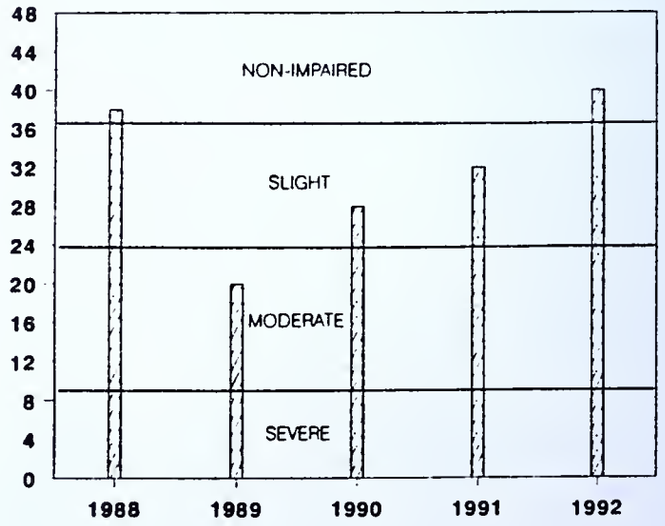


TABLE 35. Water Quality Summary Susquehanna River at Conowingo, Md.

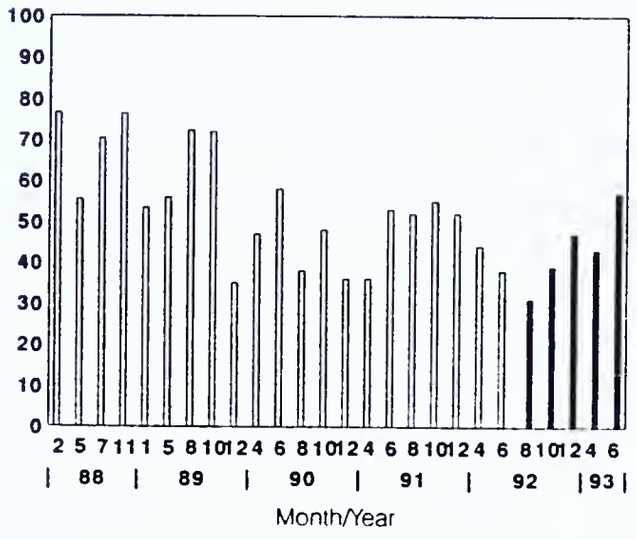
Parameters Exceeding Standards				
Parameter	**Date**	**Value**	**Standard**	**State**
TFe	04/20/93	4,660 µg/l	1,500 µg/l	Pa. chronic fish

Date	WQI	Parameters Exceeding 90th Percentile							
08/05/92	31	TSO4							
10/13/92	39								
12/22/92	47	DAl							
04/20/93	43	TURB	TFe	TMn	TAl				
06/21/93	57	COND	DO	TCa	TMg	TSO4			

Biological Summary

Number of taxa: None
Diversity index:
RBP score:
RBP condition:

Water Quality Index



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APPENDIX A.

WATER QUALITY DATA FOR INTERSTATE STREAMS CROSSING THE NEW YORK-PENNSYLVANIA AND PENNSYLVANIA-MARYLAND BORDERS

TABLE A-1. Water Quality Data for Interstate Streams Crossing the New York-Pennsylvania Border

Station	Date	Time	Discharge	Temper-ature	Specific Conduct-ance	Dissolved Oxygen	Biological Oxygen Demand	pH	Alkalinity	Acidity
			cfs	Celsius	umhos/cm	mg/l	mg/l		mg/l	mg/l
APAL 6.9	7/28/92	12:00	15.5	15.6	93	9.5	1	6.9	26	4
BNTY 0.9	7/29/92	11:00	6.63	18.2	222	9.9	0.8	7.8	70	2
CASC 1.6	7/27/92	16:45	10.8	20.7	57	6.5	1	6.85	14	6
CAYT 1.7	7/28/92	15:00	NA	17.2	173	9.9	1	7.4	46	4
CAYT 1.7	9/14/92	14:00	138	15.6	219	11.1	1.2	7.9	64	4
CAYT 1.7	11/16/92	14:00	NA	4	207	13.9	0.4	7.07	38	4
CAYT 1.7	3/22/93	13:45	152	2.2	407	12.6	1.6	7.46	42	4
CAYT 1.7	5/10/93	14:30	140	17.9	310	7	1.2	7.5	62	4
CHEM 12.0	7/29/92	12:00	2,460	19.4	257	8.3	2.2	7.3	68	4
CHEM 12.0	9/14/92	15:00	1,410	18.1	323	10.1	1.2	8	86	4
CHEM 12.0	11/16/92	14:30	4,180	4.3	219	12.9	0.4	7.14	64	6
CHEM 12.0	3/22/93	14:30	1,170	4	430	12.9	3	8.46	56	0
CHEM 12.0	5/10/93	15:10	3,020	18.5	340	6.3	1.6	7.15	74	8
CHOC 9.1	7/28/92	11:00	18.3	15.7	89	9.6	0.5	7.55	20	2
COWN 2.2	7/29/92	14:00	148	21.8	204	8	0.8	7.8	48	4
COWN 2.2	9/15/92	10:30	87	19.1	220	7.9	6.5	7.7	62	4
COWN 2.2	11/17/92	11:30	NA	5.8	195	9.8	0.5	7.27	46	4
COWN 2.2	3/23/93	11:30	204	3.1	217	12.4	3	7.4	32	4
COWN 2.2	5/11/93	12:15	236	17.1	163	9	2	8.4	32	0
LSNK 7.6	7/28/92	09:45	4.33	16.6	99	9	1	7.46	18	4
NFCR 7.6	7/30/92	09:00	0.675	15.5	181	9.9	0.4	7.2	50	4
SEEL 10.3	7/29/92	09:00	7.76	17	293	9.9	0.8	8.1	102	2
SNAK 2.3	7/27/92	12:15	109	20.1	93	9	0.5	6.7	24	8
SOUT 2.8	7/29/92	10:15	3.93	18.9	174	8.7	2	7.1	48	4

TABLE A1. Water Quality Data for Interstate Streams Crossing the New York-Pennsylvania Border (Continued)

Station	Date	Time	Solids Diss.	Solids Total	Ammonia Diss.	Ammonia Total	Nitrite Diss.	Nitrite Total	Nitrate Diss.	Nitrate Total	Kjeldahl Nitrogen Diss.
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
APAL 6.9	7/28/92	12:00	84	96	0.02	0.02	0.004	0.004	0.48	0.48	0.25
BNTY 0.9	7/29/92	11:00	138	142	0.02	0.02	0.004	0.004	0.13	0.13	0.2
CASC 1.6	7/27/92	16:45	72	82	0.02	0.02	0.004	0.004	0.09	0.09	0.2
CAYT 1.7	7/28/92	15:00	212	220	0.02	0.02	0.004	0.004	0.26	0.26	0.2
CAYT 1.7	9/14/92	14:00	134	148	0.02	0.05	0.004	0.01	0.73	0.74	0.41
CAYT 1.7	11/16/92	14:00	138	138	0.03	0.03	0.004	0.004	0.57	0.57	0.31
CAYT 1.7	3/22/93	13:45	214	218	0.02	0.02	0.014	0.014	0.98	0.98	0.2
CAYT 1.7	5/10/93	14:30	144	152	0.02	0.04	0.012	0.014	0.71	0.73	0.32
CHEM 12.0	7/29/92	12:00	198	228	0.02	0.03	0.014	0.016	0.61	0.64	0.43
CHEM 12.0	9/14/92	15:00	180	200	0.02	0.03	0.012	0.012	0.67	0.67	0.38
CHEM 12.0	11/16/92	14:30	149	160	0.03	0.03	0.008	0.008	0.54	0.54	0.28
CHEM 12.0	3/22/93	14:30	229	234	0.02	0.02	0.018	0.018	0.99	0.99	0.24
CHEM 12.0	5/10/93	15:10	162	174	0.02	0.04	0.01	0.012	0.74	0.74	0.28
CHOC 9.1	7/28/92	11:00	72	76	0.02	0.02	0.004	0.004	0.17	0.17	0.2
COWN 2.2	7/29/92	14:00	94	104	0.03	0.04	0.004	0.004	0.11	0.11	0.26
COWN 2.2	9/15/92	10:30	131	142	0.02	0.05	0.004	0.006	0.07	0.07	0.42
COWN 2.2	11/17/92	11:30	132	150	0.06	0.06	0.016	0.016	0.29	0.29	0.53
COWN 2.2	3/23/93	11:30	100	100	0.04	0.04	0.01	0.01	1.02	1.03	0.2
COWN 2.2	5/11/93	12:15	74	88	0.02	0.06	0.012	0.012	0.38	0.38	0.38
LSNK 7.6	7/28/92	09:45	84	90	0.02	0.02	0.004	0.004	0.09	0.09	0.25
NFCR 7.6	7/30/92	09:00	96	112	0.02	0.02	0.004	0.004	1.06	1.1	0.28
SEEL 10.3	7/29/92	09:00	112	120	0.02	0.03	0.004	0.004	0.11	0.11	0.2
SNAK 2.3	7/27/92	12:15	58	68	0.02	0.04	0.004	0.004	0.33	0.35	0.29
SOUT 2.8	7/29/92	10:15	78	96	0.03	0.05	0.012	0.012	0.32	0.32	0.25

TABLE A1. Water Quality Data for Interstate Streams Crossing the New York-Pennsylvania Border (Continued)

Station	Date	Time	Kjeldahl Nitrogen Total	Phosphorus Diss.	Phosphorus Total	Ortho Phosphorus Diss.	Ortho Phosphorus Total	Organic Carbon Total	Calcium	Magnesium
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
APAL 6.9	7/28/92	12:00	0.25	0.021	0.03	0.002	0.003	2.6	8.4	2.59
BNTY 0.9	7/29/92	11:00	0.2	0.012	0.02	0.002	0.002	1.7	25.8	5.16
CASC 1.6	7/27/92	16:45	0.22	0.019	0.02	0.002	0.015	3.8	5.55	1.62
CAYT 1.7	7/28/92	15:00	0.31	0.04	0.06	0.018	0.018	3.3	17.3	4.01
CAYT 1.7	9/14/92	14:00	0.46	0.081	0.1	0.054	0.055	3.2	10.7	4.32
CAYT 1.7	11/16/92	14:00	0.35	0.062	0.07	0.036	0.044	2.3	10.5	2.2
CAYT 1.7	3/22/93	13:45	0.2	0.15	0.11	0.086	0.126	1	33.2	6.57
CAYT 1.7	5/10/93	14:30	0.33	0.101	0.11	0.067	0.081	2.4	23.1	4.83
CHEM 12.0	7/29/92	12:00	0.49	0.045	0.11	0.025	0.025	4.1	26.8	6.02
CHEM 12.0	9/14/92	15:00	0.55	0.047	0.07	0.024	0.027	3.6	16	6.66
CHEM 12.0	11/16/92	14:30	0.28	0.038	0.038	0.002	0.002	3.2	12.4	2.65
CHEM 12.0	3/22/93	14:30	0.26	0.097	0.06	0.03	0.03	1	36.8	8.24
CHEM 12.0	5/10/93	15:10	0.63	0.053	0.04	0.012	0.012	2.6	29.6	6.51
CHOC 9.1	7/28/92	11:00	0.2	0.016	0.02	0.002	0.002	2.6	8.34	2.52
COWN 2.2	7/29/92	14:00	0.37	0.014	0.02	0.002	0.002	4.4	19.6	4.1
COWN 2.2	9/15/92	10:30	1	0.017	0.05	0.002	0.002	6.3	10.5	4.22
COWN 2.2	11/17/92	11:30	0.63	0.02	0.03	0.002	0.002	3.9	10.7	2.25
COWN 2.2	3/23/93	11:30	0.2	0.02	0.04	0.01	0.01	1.5	18.7	8.45
COWN 2.2	5/11/93	12:15	0.49	0.017	0.04	0.002	0.002	3.3	14	3.07
LSNK 7.6	7/28/92	09:45	0.26	0.054	0.04	0.006	0.008	5	9.15	2.56
NFCR 7.6	7/30/92	09:00	0.5	0.075	0.04	0.054	0.056	4.4	16.5	5.18
SEEL 10.3	7/29/92	09:00	0.2	0.015	0.02	0.002	0.003	1.8	39.5	6.12
SNAK 2.3	7/27/92	12:15	0.34	0.029	0.04	0.007	0.008	4.1	8.39	2.64
SOUT 2.8	7/29/92	10:15	0.37	0.027	0.05	0.006	0.008	3.7	18.3	3.63

TABLE A1. Water Quality Data for Interstate Streams Crossing the New York-Pennsylvania Border (Continued)

Station	Date	Time	Chloride	Sulfate	Turbidity	Iron Diss.	Iron Total	Manganese Diss.	Manganese Total	Aluminum Diss.	Aluminum Total
			mg/l	mg/l	NTU	µg/l	µg/l	ug/l	µg/l	µg/l	µg/l
APAL 6.9	7/28/92	12:00	5	16	2.8	10	254	11	31	135	135
BNTY 0.9	7/29/92	11:00	10	22	1	10	10	10	10	135	135
CASC 1.6	7/27/92	16:45	2	10	1	263	484	51	69	135	148
CAYT 1.7	7/28/92	15:00	11	21	3.2	131	574	10	18	135	382
CAYT 1.7	9/14/92	14:00	18	27	2.4	135	254	25	30	1,140	1,190
CAYT 1.7	11/16/92	14:00	15	24	2	16	65	10	10	332	335
CAYT 1.7	3/22/93	13:45	40	21	4.6	45	261	12	13	135	146
CAYT 1.7	5/10/93	14:30	27	26	3.2	20	152	10	10	170	211
CHEM 12.0	7/29/92	12:00	18	28	26	84	2,380	10	125	135	1,770
CHEM 12.0	9/14/92	15:00	26	32	9.3	120	449	31	62	1,220	1,370
CHEM 12.0	11/16/92	14:30	13	26	4.7	10	97	10	16	328	397
CHEM 12.0	3/22/93	14:30	59	28	2.3	10	73	89	102	135	135
CHEM 12.0	5/10/93	15:10	26	31	7.4	10	185	25	67	135	239
CHOC 9.1	7/28/92	11:00	6	11	1.4	125	242	64	67	623	661
COWN 2.2	7/29/92	14:00	12	45	2.1	26	52	10	18	135	135
COWN 2.2	9/15/92	10:30	14	25	5.2	112	141	231	253	1,220	1,260
COWN 2.2	11/17/92	11:30	10	24	5.1	17	113	10	30	340	406
COWN 2.2	3/23/93	11:30	14	29	3.2	10	101	28	69	135	231
COWN 2.2	5/11/93	12:15	5	23	9.3	10	169	10	79	150	232
LSNK 7.6	7/28/92	09:45	9	10	3.1	469	852	84	106	609	748
NFCR 7.6	7/30/92	09:00	9	22	4	51	168	10	36	135	135
SEEL 10.3	7/29/92	09:00	12	24	1	26	26	10	10	135	135
SNAK 2.3	7/27/92	12:15	6	19	1	137	414	10	19	155	285
SOUT 2.8	7/29/92	10:15	8	25	3.4	162	749	39	70	135	135

TABLE A1. Water Quality Data for Interstate Streams Crossing the New York-Pennsylvania Border (Continued)

Station	Date	Time	Discharge	Temper-ature	Specific Conduct-ance	Dissolved Oxygen	Biological Oxygen Demand	pH	Alkalinity	Acidity
			cfs	Celsius	umhos/cm	mg/l	mg/l		mg/l	mg/l
SUSQ 289.1	7/28/92	14:15	6,870	21.9	201	8.3	1.5	7.3	64	6
SUSQ 289.1	9/14/92	13:00	4,960	18.9	219	9.4	1.2	7.65	68	6
SUSQ 289.1	11/16/92	13:30	10,700	5	161	10.4	0.8	7.16	36	6
SUSQ 289.1	3/22/93	12:30	3,540	1.7	333	13.9	2	6.6	64	4
SUSQ 289.1	5/10/93	13:45	7,730	18.3	263	7.6	1.6	7.47	58	4
SUSQ 340.0	7/27/92	13:30	3,560	20.3	164	8.2	1	8	60	2
SUSQ 340.0	9/14/92	11:00	1,380	19.1	228	8.8	0.8	8.1	76	4
SUSQ 340.0	11/16/92	11:46	4,520	4.2	130	10.8	0.8	8.16	32	2
SUSQ 340.0	3/22/93	11:00	2,610	1.8	250	11.8	3	6.85	56	6
SUSQ 340.0	5/10/93	10:30	3,500	16.3	213	8.4	1.2	7.9	54	2
SUSQ 365.0	7/27/92	15:15	462	21.7	208	8.2	1	7.8	72	4
SUSQ 365.0	9/14/92	12:00	462	17.6	189	8.9	1.2	8	72	4
SUSQ 365.0	11/16/92	12:30	NA	4.3	164	11	1.2	8.08	32	2
SUSQ 365.0	3/22/93	11:45	15,900	2.2	252	12	2.8	6.6	62	6
SUSQ 365.0	5/10/93	11:30	3,870	16.3	229	7.8	1.2	8.3	62	0
TIOG 10.8	7/29/92	15:30	319	21.6	201	9.7	1	7.5	30	4
TIOG 10.8	9/15/92	14:00	180	18.8	223	8.4	1.6	7.4	48	8
TIOG 10.8	11/17/92	09:30	1,060	5.8	168	11.6	0.4	7.23	28	4
TIOG 10.8	3/23/93	09:45	483	1.8	266	12.1	2	6.8	20	8
TIOG 10.8	5/11/93	10:45	750	15.7	166	7.9	1.6	7.1	26	4
TROW 1.8	7/27/92	14:15	42.6	20.3	68	8.4	1	7.15	16	4
TRUP 4.5	7/30/92	10:30	12.6	17.8	273	11.1	0.8	8.2	92	2
TRUP 4.5	9/15/92	09:00	11.3	13.5	288	11.1	0.8	8.2	96	2
TRUP 4.5	11/17/92	13:00	17.2	2.5	159	13.4	0.4	7.88	44	2
TRUP 4.5	3/23/93	13:30	10.7	0.9	316	13	2	7.21	44	6
TRUP 4.5	5/11/93	13:15	9.31	20.3	226	7.3	1.2	8.6	64	0
WAPP 2.6	7/28/92	13:30	36.7	17.6	123	10.2	1	7.4	34	4

TABLE A1. Water Quality Data for Interstate Streams Crossing the New York-Pennsylvania Border (Continued)

Station	Date	Time	Solids Diss.	Solids Total	Ammonia Diss.	Ammonia Total	Nitrite Diss.	Nitrite Total	Nitrate Diss.	Nitrate Total	Kjeldahl Nitrogen Diss.
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
SUSQ 289.1	7/28/92	14:15	148	172	0.03	0.03	0.012	0.012	0.63	0.63	0.22
SUSQ 289.1	9/14/92	13:00	123	138	0.02	0.06	0.01	0.012	0.5	0.5	0.44
SUSQ 289.1	11/16/92	13:30	109	120	0.04	0.04	0.01	0.012	0.58	0.58	0.28
SUSQ 289.1	3/22/93	12:30	155	160	0.07	0.07	0.014	0.014	1.2	1.2	0.21
SUSQ 289.1	5/10/93	13:45	120	138	0.02	0.04	0.016	0.02	0.77	0.77	0.28
SUSQ 340.0	7/27/92	13:30	130	146	0.02	0.04	0.01	0.01	0.41	0.43	0.32
SUSQ 340.0	9/14/92	11:00	1,482	1,490	0.02	0.05	0.012	0.01	0.52	0.52	0.44
SUSQ 340.0	11/16/92	11:46	93	104	0.03	0.03	0.006	0.006	0.39	0.39	0.33
SUSQ 340.0	3/22/93	11:00	117	124	0.03	0.03	0.01	0.01	1.02	1.04	0.22
SUSQ 340.0	5/10/93	10:30	114	128	0.02	0.06	0.008	0.008	0.59	0.59	0.28
SUSQ 365.0	7/27/92	15:15	128	138	0.02	0.04	0.008	0.008	0.46	0.46	0.22
SUSQ 365.0	9/14/92	12:00	125	136	0.02	0.04	0.01	0.018	0.52	0.52	0.39
SUSQ 365.0	11/16/92	12:30	105	118	0.02	0.02	0.006	0.01	0.47	0.47	0.28
SUSQ 365.0	3/22/93	11:45	129	134	0.03	0.04	0.01	0.01	1.07	1.07	0.2
SUSQ 365.0	5/10/93	11:30	98	116	0.02	0.03	0.01	0.01	0.63	0.63	0.3
TIOG 10.8	7/29/92	15:30	116	128	0.02	0.02	0.004	0.004	0.26	0.26	0.2
TIOG 10.8	9/15/92	14:00	136	142	0.02	0.03	0.006	0.006	0.35	0.35	0.33
TIOG 10.8	11/17/92	09:30	128	144	0.07	0.07	0.012	0.012	0.36	0.36	0.54
TIOG 10.8	3/23/93	09:45	139	146	0.11	0.12	0.008	0.008	0.91	0.91	0.28
TIOG 10.8	5/11/93	10:45	84	98	0.02	0.03	0.008	0.01	0.47	0.07	0.28
TROW 1.8	7/27/92	14:15	48	52	0.02	0.02	0.004	0.004	0.13	0.13	0.2
TRUP 4.5	7/30/92	10:30	156	168	0.02	0.02	0.004	0.004	0.04	0.04	0.27
TRUP 4.5	9/15/92	09:00	151	158	0.02	0.02	0.004	0.004	0.07	0.13	0.28
TRUP 4.5	11/17/92	13:00	141	166	0.02	0.02	0.008	0.008	0.67	0.67	0.4
TRUP 4.5	3/23/93	13:30	151	166	0.03	0.04	0.008	0.008	0.76	0.76	0.24
TRUP 4.5	5/11/93	13:15	103	112	0.02	0.02	0.008	0.008	0.04	0.04	0.26
WAPP 2.6	7/28/92	13:30	106	110	0.02	0.02	0.004	0.004	0.48	0.48	0.2

TABLE A1. Water Quality Data for Interstate Streams Crossing the New York-Pennsylvania Border (Continued)

Station	Date	Time	Kjeldahl Nitrogen Total	Phosphorus Diss.	Phosphorus Total	Ortho Phosphorus Diss.	Ortho Phosphorus Total	Organic Carbon Total	Calcium	Magnesium
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
SUSQ 289.1	7/28/92	14:15	0.38	0.04	0.07	0.016	0.024	4.4	26	4.03
SUSQ 289.1	9/14/92	13:00	0.63	0.03	0.07	0.006	0.017	4.1	12.8	3.77
SUSQ 289.1	11/16/92	13:30	0.28	0.025	0.04	0.002	0.006	2.8	10.4	1.58
SUSQ 289.1	3/22/93	12:30	0.26	0.068	0.07	0.033	0.033	1	31.7	5.09
SUSQ 289.1	5/10/93	13:45	0.45	0.019	0.05	0.002	0.009	2.4	28.5	4.26
SUSQ 340.0	7/27/92	13:30	0.35	0.031	0.05	0.01	0.012	4.6	22.9	2.58
SUSQ 340.0	9/14/92	11:00	0.62	0.033	0.06	0.002	0.013	3	15.2	3.35
SUSQ 340.0	11/16/92	11:46	0.34	0.024	0.03	0.002	0.002	2.7	9.73	1.37
SUSQ 340.0	3/22/93	11:00	0.22	0.022	0.03	0.01	0.01	1	25.2	3.27
SUSQ 340.0	5/10/93	10:30	0.32	0.02	0.04	0.002	0.002	2.4	24	2.74
SUSQ 365.0	7/27/92	15:15	0.25	0.03	0.06	0.009	0.01	4.1	36.6	3.45
SUSQ 365.0	9/14/92	12:00	0.48	0.036	0.05	0.009	0.012	4.6	13.7	2.82
SUSQ 365.0	11/16/92	12:30	0.28	0.023	0.03	0.002	0.002	2.8	11.1	1.25
SUSQ 365.0	3/22/93	11:45	0.2	0.021	0.03	0.01	0.01	1	26.8	3.18
SUSQ 365.0	5/10/93	11:30	0.39	0.014	0.06	0.002	0.006	2.5	28.5	2.94
TIOG 10.8	7/29/92	15:30	0.2	0.014	0.02	0.002	0.002	2.6	19.9	5.15
TIOG 10.8	9/15/92	14:00	0.39	0.014	0.03	0.002	0.002	4.1	23.4	5.01
TIOG 10.8	11/17/92	09:30	0.65	0.035	0.035	0.002	0.002	3.5	9.81	2.14
TIOG 10.8	3/23/93	09:45	0.3	0.014	0.02	0.01	0.01	1	22.6	5.68
TIOG 10.8	5/11/93	10:45	0.43	0.015	0.035	0.002	0.002	2.3	15.1	3.72
TROW 1.8	7/27/92	14:15	0.2	0.021	0.03	0.002	0.003	4.2	5.65	1.93
TRUP 4.5	7/30/92	10:30	0.3	0.015	0.02	0.002	0.002	4.2	30.1	6.93
TRUP 4.5	9/15/92	09:00	0.3	0.014	0.02	0.002	0.002	3.6	14.5	6.49
TRUP 4.5	11/17/92	13:00	0.4	0.039	0.05	0.017	0.014	2.7	15.4	3.29
TRUP 4.5	3/23/93	13:30	0.24	0.021	0.03	0.01	0.01	1.7	22.6	5.35
TRUP 4.5	5/11/93	13:15	0.31	0.014	0.02	0.002	0.243	3	22.5	4.83
WAPP 2.6	7/28/92	13:30	0.2	0.024	0.02	0.002	0.003	2.9	11.1	3.77

TABLE A1. Water Quality Data for Interstate Streams Crossing the New York-Pennsylvania Border (Continued)

Station	Date	Time	Chloride	Sulfate	Turbidity	Iron Diss.	Iron Total	Manganese Diss.	Manganese Total	Aluminum Diss.	Aluminum Total
			mg/l	mg/l	NTU	µg/l	µg/l	ug/l	µg/l	µg/l	µg/l
SUSQ 289.1	7/28/92	14:15	11	15	3.4	52	282	10	43	135	171
SUSQ 289.1	9/14/92	13:00	13	25	5.1	107	476	24	63	1,100	1,270
SUSQ 289.1	11/16/92	13:30	8	17	5	24	160	10	10	335	391
SUSQ 289.1	3/22/93	12:30	29	13	2.1	32	142	17	18	135	135
SUSQ 289.1	5/10/93	13:45	14	24	1	10	257	11	37	147	233
SUSQ 340.0	7/27/92	13:30	7	19	2.6	74	560	10	31	116	403
SUSQ 340.0	9/14/92	11:00	10	56	3.4	100	298	30	62	1,020	1,090
SUSQ 340.0	11/16/92	11:46	6	21	1	37	143	10	10	347	348
SUSQ 340.0	3/22/93	11:00	18	10	2.8	65	186	15	17	135	151
SUSQ 340.0	5/10/93	10:30	9	23	5.4	31	276	25	46	135	194
SUSQ 365.0	7/27/92	15:15	8	15	2.5	103	327	58	90	624	1,090
SUSQ 365.0	9/14/92	12:00	9	31	3.2	130	333	26	48	1,060	1,130
SUSQ 365.0	11/16/92	12:30	6	20	5.7	25	143	10	11	317	356
SUSQ 365.0	3/22/93	11:45	16	10	2.9	45	197	19	22	135	152
SUSQ 365.0	5/10/93	11:30	8	21	9.7	33	289	14	41	135	202
TIOG 10.8	7/29/92	15:30	10	45	1.2	34	70	88	115	135	135
TIOG 10.8	9/15/92	14:00	12	37	2	10	89	76	97	135	151
TIOG 10.8	11/17/92	09:30	9	31	10.6	14	205	71	91	331	465
TIOG 10.8	3/23/93	09:45	16	39	1	15	199	569	604	137	215
TIOG 10.8	5/11/93	10:45	5	34	13.8	20	450	389	448	135	423
TROW 1.8	7/27/92	14:15	3	14	1	146	535	10	18	135	386
TRUP 4.5	7/30/92	10:30	15	25	1	36	179	10	18	135	135
TRUP 4.5	9/15/92	09:00	14	25	1.2	110	137	22	23	1,230	1,230
TRUP 4.5	11/17/92	13:00	7	23	18.3	11	436	10	13	346	701
TRUP 4.5	3/23/93	13:30	30	24	12.8	10	302	10	10	140	387
TRUP 4.5	5/11/93	13:15	8	23	2.4	10	79	10	10	154	227
WAPP 2.6	7/28/92	13:30	8	21	1.4	20	87	10	10	135	135

TABLE A2. Water Quality Data for Interstate Streams Crossing the Pennsylvania-Maryland Border

Station	Date	Time	Discharge	Temper-ature	Specific Conduct-ance	Dissolved Oxygen	Biological Oxygen Demand	pH	Alkalinity	Acidity
			cfs	Celsius	umhos/cm	mg/l	mg/l		mg/l	mg/l
BBDC 4.1	8/4/92	12:30	1.61	18.1	130	9	0.8	7.1	32	4
CNWG 4.4	8/6/92	13:00	10.1	21.6	221	8.5	1.6	7.25	36	4
CNWG 4.4	10/14/92	11:45	13.6	11.4	227	9.4	0.4	7.02	36	4
CNWG 4.4	12/22/92	12:15	12.1	4.2	223	12.6	0.5	7.34	28	4
CNWG 4.4	4/20/93	10:45	19.8	12.9	244	10.2	0.8	7.05	22	6
CNWG 4.4	6/22/93	11:45	26.2	21.5	257	5.9	3.6	7.05	42	4
DEER 44.2	8/4/92	09:30	22.5	19.3	192	8.6	1.6	7.3	37	4
DEER 44.2	10/13/92	09:30	7.28	11.4	180	10.6	0.5	7.55	40	4
DEER 44.2	12/21/92	09:30	14.8	3.2	157	13.1	0.4	7.13	28	6
DEER 44.2	4/19/93	09:15	17	8.5	316	10.8	0.5	7.5	22	4
DEER 44.2	6/21/93	09:30	15.1	19.9	223	7.5	1.2	7.55	32	4
EBAU 1.5	8/4/92	11:00	5.86	18.3	324	8.4	0.8	7	32	4
EBAU 1.5	10/13/92	10:30	4.29	11.3	574	10.6	0.5	7.05	32	4
EBAU 1.5	12/21/92	10:30	4.73	3.6	268	13.2	0.8	6.73	20	8
EBAU 1.5	4/19/93	10:30	6.96	8.1	243	11.2	0.4	7.3	20	6
EBAU 1.5	6/21/93	10:30	6.39	18.1	508	7.4	0.8	7.21	32	4
FBDC 4.1	8/4/92	13:45	1.91	21.3	126	8.3	1.2	6.8	22	4
LNGA 2.5	8/3/92	10:15	0.707	19.3	181	9.5	0.5	7.5	36	6
OCTO 6.6	8/5/92	13:00	44.5	21.6	217	9.4	0.4	8	50	2
OCTO 6.6	10/14/92	10:45	42.1	11.9	218	10.6	0.4	7.6	48	4
OCTO 6.6	12/22/92	11:00	226	4.2	203	12.1	1	7.37	46	4
OCTO 6.6	4/20/93	11:30	400	12.6	235	10.6	1.6	7.1	30	4
OCTO 6.6	6/22/93	12:35	95.6	23.4	260	7.5	1.6	7.35	39	6
SBCC 20.4	8/3/92	12:00	0.753	18.5	101	9.2	0.5	7.35	32	4
SCTT 3.0	8/5/92	09:30	0.324	17.5	310	7.1	2	7.1	76	10
SCTT 3.0	10/14/92	09:30	0.37	11.4	379	9.3	0.5	7.15	88	8
SCTT 3.0	12/21/92	11:45	1.12	4.5	309	13.8	1.6	7.16	52	8
SCTT 3.0	4/19/93	12:05	3.01	10	243	10.2	0.4	7.15	26	4
SCTT 3.0	6/21/93	11:45	0.81	19.8	308	6.5	0.8	7.4	56	12

TABLE A2. Water Quality Data for Interstate Streams Crossing the Pennsylvania-Maryland Border (Continued)

Station	Date	Time	Solids Diss.	Solids Total	Ammonia Diss.	Ammonia Total	Nitrite Diss.	Nitrite Total	Nitrate Diss.	Nitrate Total	Kjeldahl Nitrogen Diss.
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
BBDC 4.1	8/4/92	12:30	108	256	0.03	0.03	0.01	0.016	4.08	4.08	0.41
CNWG 4.4	8/6/92	13:00	139	148	0.02	0.02	0.022	0.022	6.03	6.03	0.57
CNWG 4.4	10/14/92	11:45	183	192	0.03	0.03	0.024	0.024	6.75	6.75	0.43
CNWG 4.4	12/22/92	12:15	139	152	0.06	0.07	0.022	0.022	7.97	7.97	0.41
CNWG 4.4	4/20/93	10:45	180	180	0.02	0.03	0.024	0.024	8.16	8.16	0.25
CNWG 4.4	6/22/93	11:45	254	508	0.27	0.33	0.122	0.132	8.35	10.5	1.46
DEER 44.2	8/4/92	09:30	111	142	0.04	0.04	0.02	0.022	3.68	3.68	0.42
DEER 44.2	10/13/92	09:30	136	136	0.03	0.03	0.006	0.006	4.1	4.84	0.33
DEER 44.2	12/21/92	09:30	106	106	0.04	0.05	0.004	0.004	5.57	5.57	0.27
DEER 44.2	4/19/93	09:15	179	184	9.5	9.52	0.022	0.022	16	16	26.9
DEER 44.2	6/21/93	09:30	128	156	0.03	0.04	0.028	0.028	5.05	5.78	0.35
EBAU 1.5	8/4/92	11:00	249	266	0.03	0.03	0.012	0.012	4.35	4.35	0.41
EBAU 1.5	10/13/92	10:30	394	394	0.02	0.02	0.01	0.01	6.28	7.25	0.59
EBAU 1.5	12/21/92	10:30	206	206	0.07	0.09	0.0 1	0.01	6.04	6.04	0.42
EBAU 1.5	4/19/93	10:30	158	164	0.14	0.14	0.032	0.032	6.02	6.02	0.52
EBAU 1.5	6/21/93	10:30	306	330	0.08	0.08	0.048	0.048	5.52	5.52	0.38
FBDC 4.1	8/4/92	13:45	93	98	0.02	0.03	0.014	0.014	3.16	3.16	0.36
LNGA 2.5	8/3/92	10:15	235	248	0.02	0.02	0.012	0.014	6.28	6.28	0.34
OCTO 6.6	8/5/92	13:00	192	192	0.02	0.02	0.012	0.012	3.69	3.82	0.28
OCTO 6.6	10/14/92	10:45	204	212	0.02	0.02	0.014	0.014	4.1	4.1	0.26
OCTO 6.6	12/22/92	11:00	135	162	0.25	0.35	0.04	0.04	5.28	5.28	1.21
OCTO 6.6	4/20/93	11:30	169	192	0.02	0.19	0.056	0.07	4.7	4.68	0.66
OCTO 6.6	6/22/93	12:35	201	248	0.08	0.08	0.088	0.088	7.18	7.65	0.89
SBCC 20.4	8/3/92	12:00	68	76	0.02	0.02	0.004	0.004	1.63	1.63	0.2
SCTT 3.0	8/5/92	09:30	204	302	0.22	0.22	0.088	0.108	1.97	1.98	0.57
SCTT 3.0	10/14/92	09:30	323	332	0.67	0.68	0.058	0.058	0.91	0.91	1.29
SCTT 3.0	12/21/92	11:45	1,444	1,444	0.4	0.41	0.026	0.028	3.84	3.84	0.73
SCTT 3.0	4/19/93	12:05	132	132	0.11	0.12	0.014	0.016	2.22	2.22	0.2
SCTT 3.0	6/21/93	11:45	155	164	0.17	0.19	0.064	0.066	2.01	2.01	0.51

TABLE A2. Water Quality Data for Interstate Streams Crossing the Pennsylvania-Maryland Border (Continued)

Station	Date	Time	Kjeldahl Nitrogen Total	Phosphorus Diss.	Phosphorus Total	Ortho Phosphorus Diss.	Ortho Phosphorus Total	Organic Carbon Total	Calcium	Magnesium
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
BBDC 4.1	8/4/92	12:30	0.41	0.032	0.06	0.006	0.015	3.1	10.7	4.89
CNWG 4.4	8/6/92	13:00	0.68	0.063	0.08	0.031	0.04	3.2	14.3	8.84
CNWG 4.4	10/14/92	11:45	0.43	0.085	0.1	0.057	0.062	2.7	16.4	8.71
CNWG 4.4	12/22/92	12:15	0.57	0.065	0.09	0.042	0.046	2.4	14.5	9.42
CNWG 4.4	4/20/93	10:45	0.33	0.043	0.07	0.016	0.027	1.9	16.8	8.97
CNWG 4.4	6/22/93	11:45	2.18	0.279	0.85	0.176	0.374	10	13.1	8
DEER 44.2	8/4/92	09:30	0.65	0.054	0.12	0.026	0.039	3.9	15.1	5.74
DEER 44.2	10/13/92	09:30	0.38	0.056	0.06	0.031	0.033	1.8	15.3	5.17
DEER 44.2	12/21/92	09:30	0.32	0.016	0.02	0.002	0.003	1.2	14.6	5.2
DEER 44.2	4/19/93	09:15	28.05	0.021	0.02	0.01	0.01	9	14.2	5.38
DEER 44.2	6/21/93	09:30	0.61	0.109	0.07	0.044	0.021	3.7	15.8	5.22
EBAU 1.5	8/4/92	11:00	0.45	0.04	0.08	0.014	0.017	3.1	22.7	4.9
EBAU 1.5	10/13/92	10:30	0.71	0.074	0.08	0.051	0.051	1.5	39.6	5.06
EBAU 1.5	12/21/92	10:30	0.46	0.037	0.04	0.015	0.015	1.1	19.6	4.2
EBAU 1.5	4/19/93	10:30	0.52	0.023	0.02	0.01	0.01	1.3	15.1	4.91
EBAU 1.5	6/21/93	10:30	0.71	0.134	0.1	0.068	0.061	2.8	36.7	5.68
FBDC 4.1	8/4/92	13:45	0.44	0.027	0.05	0.002	0.015	3.3	9.33	4.13
LNGA 2.5	8/3/92	10:15	0.34	0.019	0.05	0.002	0.006	1.7	14.8	5.46
OCTO 6.6	8/5/92	13:00	0.38	0.062	0.09	0.042	0.048	3.3	14.6	10.3
OCTO 6.6	10/14/92	10:45	0.32	0.071	0.09	0.041	0.051	3.1	15.7	11.6
OCTO 6.6	12/22/92	11:00	1.4	0.152	0.24	0.1	0.125	2.3	14	7.43
OCTO 6.6	4/20/93	11:30	1.04	0.124	0.26	0.071	0.141	3.3	17	8.33
OCTO 6.6	6/22/93	12:35	1.04	0.085	0.2	0.054	0.09	4.5	16.1	10.3
SBCC 20.4	8/3/92	12:00	0.2	0.048	0.03	0.002	0.002	1.4	11.1	3.18
SCTT 3.0	8/5/92	09:30	0.69	0.069	0.2	0.048	0.09	3.8	24.8	12.4
SCTT 3.0	10/14/92	09:30	1.29	0.055	0.25	0.048	0.086	4.3	30.1	14.6
SCTT 3.0	12/21/92	11:45	0.79	0.043	0.07	0.023	0.023	2.6	23.3	13.9
SCTT 3.0	4/19/93	12:05	0.2	0.04	0.05	0.02	0.024	1.7	12.7	8.36
SCTT 3.0	6/21/93	11:45	0.51	0.098	0.05	0.049	0.06	2.9	18.3	9.09

TABLE A2. Water Quality Data for Interstate Streams Crossing the Pennsylvania-Maryland Border (Continued)

Station	Date	Time	Chloride	Sulfate	Turbidity	Iron Diss.	Iron Total	Manganese Diss.	Manganese Total	Aluminum Diss.	Aluminum Total
			mg/l	mg/l	NTU	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
BBDC 4.1	8/4/92	12:30	10	10	28	61	1,080	11	27	177	998
CNWG 4.4	8/6/92	13:00	16	22	4	182	336	55	55	135	147
CNWG 4.4	10/14/92	11:45	16	10	3.9	48	231	20	34	251	263
CNWG 4.4	12/22/92	12:15	15	24	4.2	118	231	33	37	709	709
CNWG 4.4	4/20/93	10:45	14	23	10.3	34	413	35	41	135	344
CNWG 4.4	6/22/93	11:45	14	17	115	135	12,600	29	265	135	9,250
DEER 44.2	8/4/92	09:30	18	11	15.5	63	1,470	17	68	136	1,100
DEER 44.2	10/13/92	09:30	17	10	2	72	155	24	30	135	135
DEER 44.2	12/21/92	09:30	14	20	3.3	43	154	27	29	471	471
DEER 44.2	4/19/93	09:15	15	18	5	33	198	27	31	168	266
DEER 44.2	6/21/93	09:30	16	10	8.4	68	814	30	59	185	894
EBAU 1.5	8/4/92	11:00	59	11	14.6	72	881	63	91	150	589
EBAU 1.5	10/13/92	10:30	130	13	4.3	84	242	61	71	135	211
EBAU 1.5	12/21/92	10:30	57	14	2.7	46	152	33	43	557	577
EBAU 1.5	4/19/93	10:30	27	15	7	30	155	33	41	207	242
EBAU 1.5	6/21/93	10:30	89	10	6	93	1,170	72	98	157	877
FBDC 4.1	8/4/92	13:45	11	13	4.9	110	452	16	25	135	313
LNGA 2.5	8/3/92	10:15	14	10	7.5	25	291	48	66	135	270
OCTO 6.6	8/5/92	13:00	14	25	3.8	100	242	50	50	150	226
OCTO 6.6	10/14/92	10:45	14	28	4.6	102.4	228.6	50	50	167.1	2,71.1
OCTO 6.6	12/22/92	11:00	13	26	31	100	1,250	50	71	740	1,710
OCTO 6.6	4/20/93	11:30	12	24	63	166	2,740	50	107	157	2,940
OCTO 6.6	6/22/93	12:35	14	23	17.5	300	1,710	50	83	288	1,560
SBCC 20.4	8/3/92	12:00	6	10	2.9	56	167	16	10	135	148
SCTT 3.0	8/5/92	09:30	29	28	8.8	45	874	117	185	135	135
SCTT 3.0	10/14/92	09:30	42	38	13.1	1,120	2,250	377	752	188	188
SCTT 3.0	12/21/92	11:45	40	40	2.6	159	320	155	170	494	526
SCTT 3.0	4/19/93	12:05	27	25	2.8	658	1,400	165	220	465	835
SCTT 3.0	6/21/93	11:45	31	32	1.26	141	474	42	47	159	264

TABLE A2. Water Quality Data for Interstate Streams Crossing the Pennsylvania-Maryland Border (Continued)

Station	Date	Time	Discharge	Temper-ature	Specific Conduct-ance	Dissolved Oxygen	Biological Oxygen Demand	pH	Alkalinity	Acidity
			cfs	Celsius	umhos/cm	mg/l	mg/l		mg/l	mg/l
SUSQ 10.0	8/5/92	12:15	43,100	24.8	225	8.2	0.8	7.4	44	4
SUSQ 10.0	10/13/92	12:30	43,200	16.3	221	9.1	0.5	7.3	42	4
SUSQ 10.0	12/22/92	10:00	77,200	6	216	11.8	0.5	7.44	40	4
SUSQ 10.0	4/20/93	13:00	258,000	11.8	154	11.2	0.8	7	22	4
SUSQ 10.0	6/21/93	13:30	46,700	26.6	413	5.1	1.6	7.65	70	6
SUSQ 44.5	8/6/92	09:00	34,900	21	220	8.2	1.6	7.3	38	4
SUSQ 44.5	10/15/92	11:15	22,100	13.8	244	10.1	0.4	7.35	38	6
SUSQ 44.5	12/23/92	11:00	74,600	3	198	12.6	0.8	7.89	42	2
SUSQ 44.5	4/21/93	11:00	175,000	10.8	160	10.8	1.2	7	26	6
SUSQ 44.5	6/23/93	11:30	21,600	23.8	392	6.6	1.2	7.8	64	6

TABLE A2. Water Quality Data for Interstate Streams Crossing the Pennsylvania-Maryland Border (Continued)

Station	Date	Time	Solids Diss.	Solids Total	Ammonia Diss.	Ammonia Total	Nitrite Diss.	Nitrite Total	Nitrate Diss.	Nitrate Total	Kjeldahl Nitrogen Diss.
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
SUSQ 10.0	8/5/92	12:15	178	178	0.02	0.03	0.014	0.016	0.95	0.95	0.2
SUSQ 10.0	10/13/92	12:30	185	188	0.05	0.05	0.012	0.012	0.98	1.09	0.36
SUSQ 10.0	12/22/92	10:00	126	154	0.08	0.09	0.014	0.016	1.84	1.84	0.44
SUSQ 10.0	4/20/93	13:00	106	186	0.02	0.07	0.012	0.022	0.8	0.8	0.2
SUSQ 10.0	6/21/93	13:30	235	244	0.15	0.17	0.034	0.036	1.53	1.53	0.5
SUSQ 44.5	8/6/92	09:00	118	150	0.02	0.02	0.014	0.014	0.69	0.72	0.27
SUSQ 44.5	10/15/92	11:15	146	154	0.09	0.1	0.008	0.008	1	1	0.2
SUSQ 44.5	12/23/92	11:00	113	134	0.07	0.1	0.016	0.016	0.9	0.9	0.52
SUSQ 44.5	4/21/93	11:00	82	172	0.04	0.07	0.012	0.016	0.7	0.7	0.38
SUSQ 44.5	6/23/93	11:30	249	258	0.02	0.02	0.014	0.014	1.1	1.09	0.2

TABLE A2. Water Quality Data for Interstate Streams Crossing the Pennsylvania-Maryland Border (Continued)

Station	Date	Time	Kjeldahl Nitrogen Total	Phosphorus Diss.	Phosphorus Total	Ortho Phosphorus Diss.	Ortho Phosphorus Total	Organic Carbon Total	Calcium	Magnesium
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
SUSQ 10.0	8/5/92	12:15	0.3	0.018	0.04	0.002	0.007	2.6	22.1	6.18
SUSQ 10.0	10/13/92	12:30	0.44	0.03	0.05	0.008	0.013	2.8	20.6	5.64
SUSQ 10.0	12/22/92	10:00	0.5	0.033	0.07	0.016	0.016	2.9	22.3	6.08
SUSQ 10.0	4/20/93	13:00	0.52	0.024	0.14	0.01	0.03	2.7	14.6	4.53
SUSQ 10.0	6/21/93	13:30	0.68	0.026	0.02	0.01	0.01	3.2	35.8	11.5
SUSQ 44.5	8/6/92	09:00	0.49	0.037	0.09	0.019	0.028	3.9	18.2	4.62
SUSQ 44.5	10/15/92	11:15	0.28	0.03	0.05	0.005	0.005	2.8	22.8	6.24
SUSQ 44.5	12/23/92	11:00	0.63	0.02	0.06	0.003	0.003	2.4	17.2	4.48
SUSQ 44.5	4/21/93	11:00	0.54	0.029	0.12	0.01	0.014	2.8	14.5	4.27
SUSQ 44.5	6/23/93	11:30	0.45	0.045	0.08	0.002	0.044	2.6	34	10.5

TABLE A2. Water Quality Data for Interstate Streams Crossing the Pennsylvania-Maryland Border (Continued)

Station	Date	Time	Chloride	Sulfate	Turbidity	Iron Diss.	Iron Total	Manganese Diss.	Manganese Total	Aluminum Diss.	Aluminum Total
			mg/l	mg/l	NTU	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
SUSQ 10.0	8/5/92	12:15	13	40	6	16	228	10	95	135	200
SUSQ 10.0	10/13/92	12:30	13	37	7.8	8	264	12	100	162	289
SUSQ 10.0	12/22/92	10:00	12	39	19.9	60	768	39	78	539	1,050
SUSQ 10.0	4/20/93	13:00	6	31	95.5	93	4,660	67	296	135	4,670
SUSQ 10.0	6/21/93	13:30	21	65	2.6	39	213	78	163	270	366
SUSQ 44.5	8/6/92	09:00	10	30	25	100	2,070	50	266	150	1,760
SUSQ 44.5	10/15/92	11:15	16	42	9.6	100	297.7	50	80.1	207.4	259.3
SUSQ 44.5	12/23/92	11:00	12	36	22	100	1,160	96	172	700	1,330
SUSQ 44.5	4/21/93	11:00	8	30	72	120	3,850	70	229	302	3,440
SUSQ 44.5	6/23/93	11:30	17	84	8.6	100	284	50	94	281	563

APPENDIX B.

MACROINVERTEBRATE DATA FOR INTERSTATE STREAMS CROSSING THE NEW YORK-PENNSYLVANIA AND PENNSYLVANIA-MARYLAND BORDERS

TABLE B1. Macroinvertebrate Data for Susquehanna River at Windsor, N.Y., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Dytiscidae	Agabus	1
	Elmidae	Gonielmis *	
		Macronychus *	
		Optioservus	2
		Stenelmis	2
	Gyrinidae	Dineutis	4
	Psephenidae	Psephenus	7
Diptera	Rhagionidae	Atherix *	
	Chironomidae		5
	Simuliidae	Simulium *	
	Tipulidae	Antocha *	
Ephemeroptera	Baetidae	Baetis *	
		Centroptilum *	
		Neocloeon	3
		Pseudocloeon *	
	Caenidae	Caenis *	
	Ephemerellidae	Ephemerella*	
		Serratella *	
	Heptageniidae	Heptagenia *	
		Rhithrogena *	
		Stenacron *	
		Stenonema	12
	Oligoneuriidae	Isonychia	22
	Polymitarcyidae	Ephoron	16
	Potamanthidae	Potamanthus*	
Megaloptera	Corydalidae	Corydalus	1
	Sialidae	Sialis	3
Plecoptera	Perlidae	Acroneuria *	
		Neoperla	9
		Paragnetina *	
		Phasganophora	2
	Perlodidae	Isoperla *	
Trichoptera	Hydropsychidae	Cheumatopsyche *	
		Hydropsyche	1
		Macronemum	2
		Symphitopsyche	2
	Hydroptilidae	Stactobiella *	
	Lepidostomatidae	Theliopsyche *	

TABLE B1. Macroinvertebrate Data for Susquehanna River at Windsor, N.Y., 1986-92 (Continued)

Order	Family	Genus	Individuals Collected
Trichoptera	Leptoceridae	Mystacides	1
	Limnephilidae	Frenesia *	
		Neophylax *	
	Philopotamidae	Chimarra	1
	Polycentropodidae	Neureclipsis *	
		Nyctiophylax *	
Amphipoda	Gammaridae	Gammarus	2
Decapoda	Cambaridae	Cambarus	1
Limnophila	Physidae	Physa	1
Pelecypoda	Sphaeriidae	Pisidium	1
Tricladida	Planariidae	Dugesia *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1986-92: 48
1992: 23

RBP SCORE: 46
DIVERSITY INDEX: 3.74

TABLE B2. Macroinvertebrate Data for Cascade Creek at Lanesboro, Pa., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Stenelmis	1
	Psephenidae	Psephenus *	
Diptera	Athericidae	Atherix *	
	Chironomidae		9
	Simuliidae	Simulium *	
	Tabanidae	Tabanus	1
	Tipulidae	Hexatoma *	
		Tipula	1
Ephemeroptera	Baetidae	Baetis *	
		Pseudocloeon *	
	Caenidae	Caenis *	
	Ephemeridae	Ephemera *	
	Heptageniidae	Epeorus *	
		Heptagenia *	
		Stenacron *	
		Stenonema *	
	Leptophlebiidae	Leptophlebia *	
	Oligoneuriidae	Isonychia	37
	Tricorythidae	Leptohypes *	
Megaloptera	Corydalidae	Nigronia	7
	Sialidae	Sialis	1
Odonata	Aeshnidae	Boyeria *	
	Calopterygidae	Hetaerina *	
	Gomphidae	Gomphus	1
		Ophiogomphus	3
		Hagenius *	
Plecoptera	Perlidae	Acroneuria *	
		Phasganophora *	
	Pteronarcyidae	Pteronarcys *	
Trichoptera	Hydropsychidae	Cheumatopsyche	3
		Hydropsyche	3
		Symphitopsyche	1
	Limnephilidae	Hydatophylax *	
	Philopotamidae	Chimarra	1
Decapoda	Cambaridae	Cambarus	1
		Orconectes *	

TABLE B2. Macroinvertebrate Data for Cascade Creek at Lanesboro, Pa., 1988-92 (Continued)

Order	Family	Genus	Individuals Collected
Decapoda	Cambaridae	Procambarus *	
Pelecypoda	Sphaeriidae	Sphaerium	4

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 38
1992: 15

RBP SCORE: 16
DIVERSITY INDEX: 2.65

TABLE B3. Macroinvertebrate Data for Trowbridge Creek at Great Bend, Pa., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Dytiscidae	Laccophilus *	
	Elmidae	Stenelmis	12
	Hydrophilidae	Laccobius	1
	Psephenidae	Psephenus	10
Diptera	Rhagionidae	Atherix *	
	Chironomidae		8
	Empididae	Hemerodromia *	
	Simuliidae	Simulium *	
	Tipulidae	Antocha *	
		Hexatoma	1
		Pedicia *	
		Tipula	1
Ephemeroptera	Baetidae	Baetis	3
		Neocloeon *	
		Pseudocloeon	4
	Heptageniidae	Heptagenia *	
		Leucrocuta	1
		Stenacron *	
		Stenonema *	
	Oligoneuriidae	Isonychia	29
	Potamanthidae	Potamanthus *	
Megaloptera	Corydalidae	Nigronia	8
	Sialidae	Sialis *	
Odonata	Aeshnidae	Boyeria *	
	Gomphidae	Ophiogomphus *	
Plecoptera	Capniidae	Paracapnia *	
	Leuctridae	Leuctra	3
	Perlidae	Paragnetina *	
		Phasganophora *	
Trichoptera	Glossosomatidae	Glossosoma	1
	Hydropsychidae	Cheumatopsyche	3
		Potamyia *	
		Symphitopsyche	11
	Philopotamidae	Dolophilodes *	
	Polycentropodidae	Polycentropus	1

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 34
1992: 16

RBP SCORE: 28
DIVERSITY INDEX: 3.24

TABLE B4. Macroinvertebrate Data for Snake Creek at Brookdale, Pa., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Macronychus *	
		Optioservus *	
		Stenelmis	3
	Hydrophilidae	Hydrobius	4
	Psephenidae	Psephenus	5
Diptera	Rhagionidae	Atherix *	
	Chironomidae		3
	Tipulidae	Antocha *	
		Hexatoma *	
		Tipula	2
Ephemeroptera	Baetidae	Baetis	4
		Centroptilum *	
		Heterocloeon *	
		Neocloeon *	
		Pseudocloeon *	
	Caenidae	Caenis	2
	Ephemerellidae	Ephemerella *	
		Serratella *	
	Ephemeridae	Ephemera *	
	Heptageniidae	Epeorus	2
		Heptagenia	7
		Ironodes *	
		Stenacron	2
		Stenonema	4
	Leptophlebiidae	Paraleptophlebia	3
	Oligoneuriidae	Isonychia	31
	Polymitarcyidae	Ephoron *	
	Potamanthidae	Potamanthus *	
	Siphlonuridae	Ameletus	4
	Tricorythidae	Tricorythodes	1
Megaloptera	Corydalidae	Corydalus *	
		Chauliodes *	
		Nigronia *	
	Sialidae	Sialis	1
Odonata	Gomphidae	Gomphus *	
		Ophiogomphus *	
Plecoptera	Leuctridae	Leuctra	2
	Nemouridae	Amphinemura *	

TABLE B4. Macroinvertebrate Data for Snake Creek at Brookdale, Pa., 1986-92 (Continued)

Order	Family	Genus	Individuals Collected
Plecoptera	Perlidae	Acroneuria *	
		Neoperla	1
		Paragnetina *	
		Phasganophora	2
	Perlodidae	Isoperla *	
	Pteronarcyidae	Pteronarcys *	
Trichoptera	Glossosomatidae	Glossosoma	8
	Hydropsychidae	Cheumatopsyche	3
		Hydropsyche *	
		Macronemum *	
		Parapsyche *	
		Symphitopsyche	9
	Hydroptilidae	Leucotrichia *	
	Leptoceridae	Mystacides *	
	Limnephilidae	Hydatophylax *	
	Philopotamidae	Chimarra	5
	Polycentropodidae	Neureclipsis	1
Decapoda	Cambaridae	Cambarus	1
Haplotaxida	Naididae		1
Pelecypoda	Sphaeriidae	Pisidium *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1986-92: 57
1992: 26

RBP SCORE: 46
DIVERSITY INDEX: 3.98

TABLE B5. Macroinvertebrate Data for Little Snake Creek at Brackney, Pa., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Optioservus *	
		Stenelmis	1
	Psephenidae	Psephenus	2
Diptera	Rhagionidae	Atherix	8
	Chironomidae		11
	Empididae	Hemerodromia *	
	Simuliidae	Simulium	2
	Tipulidae	Antocha *	
		Hexatoma	1
		Tipula	1
Ephemeroptera	Baetidae	Baetis	4
		Neocloeon *	
		Heterocloeon *	
		Pseudocloeon *	
	Caenidae	Caenis *	
	Ephemerellidae	Ephemerella *	
		Eurylophella *	
	Ephemeridae	Ephemera	1
	Heptageniidae	Epeorus	2
		Heptagenia *	
		Stenonema *	
	Leptophlebiidae	Paraleptophlebia *	
	Oligoneuriidae	Isonychia	49
Megaloptera	Corydalidae	Nigronia	2
	Sialidae	Sialis	1
Odonata	Aeshnidae	Boyeria	2
	Gomphidae	Gomphus	2
		Hagenius *	
		Ophiogomphus	1
Plecoptera	Perlidae	Acroneuria	1
		Paragnetina *	
		Phasganophora	3
Trichoptera	Glossosomatidae	Glossosoma *	
	Hydropsychidae	Cheumatopsyche	3
		Hydropsyche *	
		Macronemum *	
		Symphitopsyche	23
	Philopotamidae	Chimarra	6

TABLE B5. Macroinvertebrate Data for Little Snake Creek at Brackney, Pa., 1988-92 (Continued)

Order	Family	Genus	Individuals Collected
Decapoda	Cambaridae	Cambarus	1

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 39
1992: 22

RBP SCORE: 22
DIVERSITY INDEX: 3.16

TABLE B6. Macroinvertebrate Data for Susquehanna River at Kirkwood, N.Y., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Dytisicidae	Agabus	1
	Elmidae	Ancyronyx *	
		Dubiraphia *	
		Macronychus *	
		Optioservus *	
		Stenelmis	5
	Hydrophilidae	Berosus *	
	Psephenidae	Psephenus	2
	Ptilodactylidae	Anchytarsus *	
Diptera	Rhagionidae	Atherix *	
	Chironomidae		11
	Tipulidae	Antocha *	
		Tipula *	
Ephemeroptera	Baetidae	Baetis *	
		Centroptilum *	
		Pseudocloeon *	
	Caenidae	Brachycercus *	
	Ephemerellidae	Serratella *	
	Heptageniidae	Heptagenia *	
		Stenacron *	
		Stenonema *	
	Leptophlebiidae	Paraleptophlebia *	
	Oligoneuriidae	Isonychia*	
	Polymitarcyidae	Ephoron	3
	Potamanthidae	Potamanthus *	
	Tricorythidae	Tricorythodes*	
Lepidoptera	Pyralidae	Petrophila *	
Megaloptera	Corydalidae	Corydalus *	
Odonata	Coenagrionidae	Argia *	
	Gomphidae	Gomphus	1
Plecoptera	Perlidae	Neoperla *	
		Phasganophora *	
Trichoptera	Brachycentridae	Brachycentrus *	
	Glossosomatidae	Glossosoma*	
	Helicopsychidae	Helicopsyche *	
	Hydropsychidae	Cheumatopsyche *	
		Hydropsyche *	
		Macronemum *	

TABLE B6. Macroinvertebrate Data for Susquehanna River at Kirkwood, N.Y., 1986-92 (Continued)

Order	Family	Genus	Individuals Collected
Trichoptera	Hydropsychidae	Symphitopsyche *	
	Hydroptilidae	Stactobiella *	
	Lepidostomatidae	Lepidostoma *	
		Theliopsyche *	
	Leptoceridae	Ceraclea *	
	Limnephilidae	Hydatophylax *	
		Neophylax *	
		Pycnopsyche*	
	Philopotamidae	Chimarra*	
	Polycentropodidae	Neureclipsis *	
Hydracarina *			
Amphipoda	Gammaridae	Gammarus	8
Decapoda	Cambaridae	Cambarus *	
		Orconectes	3
Pelecypoda	Sphaeriidae	Musculium *	
		Pisidium *	
Haplotaxida	Naididae *		
Limnophila	Physidae	Physa	4
Tricladida	Planariidae	Dugesia*	

* Taxa not collected in 1992

NUMBER OF TAXA: 1986-92: 57
1992: 9

RBP SCORE: 20
DIVERSITY INDEX: 2.80

TABLE B7. Macroinvertebrate Data for Choconut Creek at Vestal Center, N.Y., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Optioservus	3
		Stenelmis	5
	Gyrinidae	Dineutis *	
	Psephenidae	Psephenus	11
Diptera	Rhagionidae	Atherix	1
	Chironomidae		18
	Empididae	Hemerodromia *	
	Tipulidae	Antocha *	
		Hexatoma *	
		Tipula *	
Ephemeroptera	Baetidae	Baetis	5
		Pseudocloeon	1
	Caenidae	Caenis	8
	Ephemerellidae	Ephemerella *	
		Serratella	3
	Heptageniidae	Epeorus	2
		Heptagenia *	
		Leucrocuta	25
		Stenacron	2
		Stenonema	6
	Leptophlebiidae	Leptophlebia *	
	Oligoneuriidae	Isonychia	30
Megaloptera	Corydalidae	Nigronia	1
	Sialidae	Sialis *	
Odonata	Gomphidae	Gomphus *	
		Ophiogomphus	4
Plecoptera	Leuctridae	Leuctra *	
	Perlidae	Acroneuria *	
		Phasganophora	1
	Perlodidae	Isoperla *	
Trichoptera	Glossosomatidae	Glossosoma *	
	Hydropsychidae	Cheumatopsyche	4
		Hydropsyche *	
		Symphitopsyche	14
	Limnephilidae	Hydatophylax *	
		Neophylax	7
	Philopotamidae	Chimarra	6
		Dolophilodes *	

TABLE B7. Macroinvertebrate Data for Choconut Creek at Vestal Center, N.Y., 1988-92 (Continued)

Order	Family	Genus	Individuals Collected
Trichoptera	Polycentropodidae	Neureclipsis *	
	Rhyacophilidae	Rhyacophila	1
Decapoda	Cambaridae	Orconectes *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 38
1992: 22

RBP SCORE: 34
DIVERSITY INDEX: 3.74

TABLE B8. Macroinvertebrate Data for Apalachin Creek at Little Meadows, Pa., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Ordobrevia *	
		Optioservus *	
		Stenelmis	2
	Hydrophilidae	Laccobius *	
	Psephenidae	Psephenus	3
Diptera	Chironomidae		28
	Simuliidae	Simulium	4
	Tipulidae	Hexatoma *	
		Tipula	1
Ephemeroptera	Baetidae	Baetis	1
		Centroptilum *	
	Caenidae	Caenis *	
	Ephemerellidae	Serratella *	
	Heptageniidae	Heptagenia *	
		Stenacron	1
		Stenonema	3
	Leptophlebiidae	Paraleptophlebia *	
	Oligoneuriidae	Isonychia	3
Megaloptera	Corydalidae	Corydalus *	
		Nigronia	1
	Sialidae	Sialis *	
Odonata	Gomphidae	Gomphus *	
		Ophiogomphus	1
Plecoptera	Leuctridae	Leuctra *	
	Perlidae	Acroneuria	2
		Paragnetina *	
		Phasgonaphora *	
	Perlodidae	Isoperla *	
Trichoptera	Glossosomatidae	Glossosoma *	
	Hydropsychidae	Cheumatopsyche	11
		Hydropsyche *	
		Symphitopsyche	2
	Philopotamidae	Chimarra	63
		Dolophilodes *	
	Rhyacophilidae	Rhyacophila	1
Decapoda	Cambaridae	Cambarus	1
		Orconectes *	

TABLE B8. Macroinvertebrate Data for Apalachin Creek at Little Meadows, Pa., 1988-92 (Continued)

Order	Family	Genus	Individuals Collected
Hemiptera	Gerridae	Gerris *	
Pelecypoda	Sphaeriidae	Musculium *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 40
1992: 17

RBP SCORE: 18
DIVERSITY INDEX: 2.49

TABLE B9. Macroinvertebrate Data for Wappasening Creek at Nichols, N.Y., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Carabidae		1
	Elmidae	Optioservus	1
		Stenelmis	1
	Gyrinidae	Dineutis *	
	Hydrophilidae	Laccobius	1
	Psephenidae	Ectopria *	
		Psephenus	8
Diptera	Rhagionidae	Atherix *	
	Chironomidae		58
	Empididae	Hemerodromia *	
	Tipulidae	Antocha *	
		Hexatoma	1
		Limonia *	
		Tipula *	
Ephemeroptera	Baetidae	Baetis	1
	Caenidae	Caenis	12
	Ephemerellidae	Ephemerella *	
	Ephemeridae	Ephemera *	
	Heptageniidae	Epeorus	1
		Heptagenia	8
		Stenacron	16
		Stenonema	2
	Leptophlebiidae	Leptophlebia	2
	Oligoneuriidae	Isonychia	6
	Tricorythidae	Tricorythodes	1
Megaloptera	Corydalidae	Corydalus *	
		Nigronia *	
	Sialidae	Sialis	2
Odonata	Aeshnidae	Boyeria	1
	Coenagrionidae	Argia *	
	Gomphidae	Gomphus	2
		Hagenius *	
		Ophiogomphus	1
		Stylogomphus *	
Plecoptera	Perlidae	Acroneuria *	
		Neoperla	1
		Paragnetina *	
		Phasganophora *	

TABLE B9. Macroinvertebrate Data for Wappasening Creek at Nichols, N.Y., 1988-92 (Continued)

Order	Family	Genus	Individuals Collected
Trichoptera	Glossosomatidae	Glossosoma *	
	Hydropsychidae	Cheumatopsyche	1
		Hydropsyche *	
		Symphitopsyche	13
	Hydroptilidae	Stactobiella *	
	Leptoceridae	Mystacides	1
	Limnophilidae	Neophylax	1
	Philopotamidae	Chimarra	3
	Polycentropodidae	Neureclipsis *	
		Polycentropus	1
Decapoda	Cambaridae	Orconectes *	
Limnophila	Physidae	Physa *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 49
1992: 27

RBP SCORE: 30
DIVERSITY INDEX: 3.31

TABLE B10. Macroinvertebrate Data for Cayuta Creek at Waverly, N.Y., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Optioservus *	
		Stenelmis	3
	Gyrinidae	Dineutus	4
	Psephenidae	Psephenus	11
Diptera	Rhagionidae	Atherix	1
	Chironomidae		9
	Empididae	Hemerodromia	2
	Simuliidae	Simulium *	
	Tipulidae	Antocha *	
		Hexatoma *	
		Tipula *	
Ephemeroptera	Baetidae	Baetis	4
		Centroptilum *	
		Heterocloeon *	
		Pseudocloeon *	
	Caenidae	Caenis *	
	Ephemerellidae	Ephemerella	2
		Serratella *	
	Heptageniidae	Epeorus *	
		Heptagenia	3
		Stenacron	2
		Stenonema	4
	Oligoneuriidae	Isonychia	20
	Polymitarcyidae	Ephoron *	
	Tricorythidae	Tricorythodes *	
Lepidoptera	Pyralidae	Petrophila *	
Megaloptera	Corydalidae	Corydalus *	
	Sialidae	Sialis	7
Odonata	Coenagrionidae	Argia	2
Plecoptera	Perlidae	Acroneuria	4
		Paragnetina *	
		Phasganophora *	
	Perlodidae	Isoperla *	
		Cultus *	
Trichoptera	Brachycentridae	Brachycentrus *	
	Glossosomatidae	Glossosoma*	
	Hydropsychidae	Cheumatopsyche	17
		Hydropsyche *	

TABLE B10. Macroinvertebrate Data for Cayuta Creek at Waverly, N.Y., 1986-92 (Continued)

Order	Family	Genus	Individuals Collected
Trichoptera	Hydropsychidae	Macronemum *	
		Symphitopsyche	16
	Hydroptilidae	Leucotrichia *	
		Stactobiella *	
	Limnephilidae	Pycnopsyche*	
	Philopotamidae	Chimarra *	
	Polycentropodidae	Nyctiophylax *	
Decapoda	Cambaridae	Orconectes *	
Hydracarina *			
Isopoda	Asellidae	Asellus	1
Limnophila	Physidae	Physa *	
Tricladida	Planariidae	Dugesia *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1986-92: 50
1992: 18

RBP SCORE; 30
DIVERSITY INDEX: 3.63

TABLE B11. Macroinvertebrate Data for North Fork Cowanesque River at North Fork, Pa., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Optioservus	3
		Stenelmis	1
	Gyrinidae	Dineutis *	
	Hydrophilidae	Laccobius *	
	Psephenidae	Psephenus	29
Diptera	Rhagionidae	Atherix	1
	Chironomidae		6
	Empididae	Hemerodromia *	
	Tabanidae	Chrysops *	
	Tipulidae	Antocha *	
		Hexatoma	1
		Tipula	1
Ephemeroptera	Baetidae	Baetis *	
		Neocloeon	6
		Pseudocloeon *	
	Caenidae	Caenis *	
	Ephemeridae	Ephemera *	
	Heptageniidae	Epeorus	2
		Heptagenia	7
		Ironodes *	
		Stenacron *	
		Stenonema *	
	Leptophlebiidae	Paraleptophlebia	1
	Oligoneuriidae	Isonychia	8
	Tricorythidae	Tricorythodes *	
Odonata	Gomphidae	Gomphus *	
		Ophiogomphus	5
Plecoptera	Leuctridae	Leuctra	16
	Perlidae	Acroneuria	2
		Paragnetina *	
		Phasganophora	9
	Pteronarcyidae	Pteronarcys	1
Trichoptera	Glossosomatidae	Glossosoma	1
	Hydropsychidae	Cheumatopsyche	4
		Hydropsyche *	
		Symphitopsyche	8
	Philopotamidae	Chimarra	2

TABLE B11. Macroinvertebrate Data for North Fork Cowanesque River at North Fork, Pa., 1988-92 (Continued)

Order	Family	Genus	Individuals Collected
Trichoptera	Philopotamidae	Dolophilodes *	
	Polycentropodidae	Neureclipsis	1
Decapoda	Cambaridae	Cambarus	1

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 40
1992: 23

RBP SCORE: 38
DIVERSITY INDEX: 3.73

TABLE B12. Macroinvertebrate Data for Troups Creek at Austinburg, Pa., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Optioservus *	
		Stenelmis	4
	Gyrinidae	Dineutis*	
	Hydrophilidae	Berosus	1
	Psephenidae	Psephenus	3
Diptera	Rhagionidae	Atherix *	
	Chironomidae		23
	Empididae	Hemerodromia	1
	Tipulidae	Hexatoma *	
		Tipula *	
Ephemeroptera	Baetidae	Baetis *	
		Pseudocloeon	1
	Caenidae	Caenis	6
	Heptageniidae	Heptagenia *	
		Stenacron *	
		Stenonema	16
	Oligoneuriidae	Isonychia *	
	Tricorythidae	Leptohyphes *	
		Tricorythodes	3
Megaloptera	Corydalidae	Nigronia	2
	Sialidae	Sialis	1
Odonata	Aeshnidae	Boyeria *	
	Coenagrionidae	Argia	1
	Gomphidae	Gomphus *	
		Hagenius *	
		Ophiogomphus	5
		Stylogomphus *	
Plecoptera	Leuctridae	Leuctra *	
	Perlidae	Neoperla	2
		Phasganophora *	
Trichoptera	Hydropsychidae	Cheumatopsyche	9
		Hydropsyche *	
		Potamyia *	
		Symphitopsyche	15
	Hydroptilidae	Stactobiella *	
	Leptoceridae	Mystacides	1
	Philopotamidae	Dolophilodes *	
Limnophila	Physidae	Physa	7

TABLE B12. Macroinvertebrate Data for Troups Creek at Austinburg, Pa., 1988-92 (Continued)

Order	Family	Genus	Individuals Collected
Limnophila	Planorbidae	Gyraulus	9
Pelecypoda	Sphaeriidae	Pisidium *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 38
1992: 19

RBP SCORE: 26
DIVERSITY INDEX: 3.58

TABLE B13. Macroinvertebrate Data for Cowanesque River at Lawrenceville, Pa., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Stenelmis	1
		Macronychus	1
	Hydrophilidae	Berosus *	
Diptera	Rhagionidae	Atherix *	
	Chironomidae		31
	Empididae	Hemerodromia *	
	Simuliidae	Simulium	64
	Tipulidae	Antocha *	
Ephemeroptera	Baetidae	Pseudocloeon *	
	Caenidae	Caenis *	
	Heptageniidae	Heptagenia *	
		Stenonema *	
Megaloptera	Corydalidae	Corydalus *	
Odonata	Coenagrionidae	Argia *	
Trichoptera	Brachycentridae	Brachycentrus *	
	Glossosomatidae	Glossosoma *	
	Hydropsychidae	Cheumatopsyche	3
		Hydropsyche *	
		Symphitopsyche	5
	Hydroptilidae	Stactobiella *	
	Polycentropodidae	Nyctiophylax *	
		Polycentropus *	
Decapoda	Cambaridae	Orconectes *	
Isopoda	Asellidae	Asellus *	
Pelecypoda	Sphaeriidae *		
Tricladida	Planariidae	Dugesia *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 35
1992: 6

RBP SCORE: 6
DIVERSITY INDEX: 1.44

TABLE B14. Macroinvertebrate Data for Tioga River at Lindley, N.Y., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Stenelmis *	
	Gyrinidae	Dineutis *	
	Hydrophilidae	Berosus	2
	Psephenidae	Psephenus *	
Diptera	Rhagionidae	Atherix *	
	Chironomidae		23
	Empididae	Hemerodromia	4
	Simuliidae	Simulium	3
	Tipulidae	Antocha *	
		Tipula	1
Ephemeroptera	Baetidae	Baetis *	
		Heterocloeon *	
		Pseudocloeon *	
	Ephemerellidae	Serratella *	
	Heptageniidae	Stenacron *	
		Stenonema	9
	Oligoneuriidae	Isonychia *	
	Siphlonuridae	Ameletus *	
	Tricorythidae	Tricorythodes	1
Megaloptera	Corydalidae	Corydalus	1
		Nigronia *	
Neuroptera	Sisyridae	Climacia *	
Odonata	Coenagrionidae	Argia	3
	Gomphidae	Gomphus *	
		Ophiogomphus	1
Plecoptera	Perlidae	Acroneuria *	
		Perlesta *	
	Perlodidae	Isoperla *	
Trichoptera	Glossosomatidae	Glossosoma *	
	Hydropsychidae	Cheumatopsyche	13
		Hydropsyche	1
		Macronemum *	
		Symphitopsyche	33
	Hydroptilidae	Agraylea *	
		Dibusa *	
		Hydroptila *	
	Philopotamidae	Chimarra *	
	Polycentropodidae	Neureclipsis	14

TABLE B14. Macroinvertebrate Data for Tioga River at Lindley, N.Y., 1986-92 (Continued)

Order	Family	Genus	Individuals Collected
Trichoptera	Polycentropodidae	Nyctiophylax *	
Amphipoda	Gammaridae	Gammarus *	
Hemiptera	Gerridae	Gerris *	
Rhynchobdellida	Glossiphoniidae	Batrachobdella *	
Pelecypoda	Sphaeriidae	Pisidium	5
Isopoda	Asellidae	Asellus *	
Haplotaxida	Naididae *		

* Taxa not collected in 1992

NUMBER OF TAXA: 1986-92: 42
1992: 15

RBP SCORE: 18
DIVERSITY INDEX: 3.06

TABLE B15. Macroinvertebrate Data for Seeley Creek at Seeley Creek, N.Y., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Optioservus *	
		Stenelmis	6
	Gyrinidae	Dineutis *	
		Gyrinus *	
	Psephenidae	Psephenus	5
Diptera	Rhagionidae	Atherix	2
	Chironomidae		44
	Empididae	Hemerodromia	2
	Simuliidae	Simulium	3
	Tipulidae	Antocha *	
		Hexatoma *	
		Limonia *	
		Tipula *	
Ephemeroptera	Baetidae	Baetis	5
		Centroptilum *	
		Cloeon *	
		Pseudocloeon	19
	Caenidae	Caenis	1
	Ephemerellidae	Drunella *	
		Ephemerella *	
		Eurylophella *	
		Serratella *	
	Ephemeridae	Ephemera *	
	Heptageniidae	Epeorus	1
		Heptagenia *	
		Stenacron *	
		Stenonema	2
	Leptophlebiidae	Leptophlebia *	
		Paraleptophlebia *	
	Oligoneuriidae	Isonychia	10
	Siphlonuridae	Siphlonurus *	
	Tricorythidae	Leptohyphes *	
		Tricorythodes	5
Megaloptera	Corydalidae	Nigronia *	
	Sialidae	Sialis *	
Odonata	Gomphidae	Erpetogomphus *	
		Gomphus *	
		Ophiogomphus *	

TABLE B15. Macroinvertebrate Data for Seeley Creek at Seeley Creek, N.Y., 1986-92 (Continued)

Order	Family	Genus	Individuals Collected
Odonata	Gomphidae	Stylogomphus *	
Plecoptera	Leuctridae	Leuctra *	
	Nemouridae	Amphinemura *	
	Perlidae	Acroneuria	3
		Phasganophora *	
	Perlodidae	Isoperla *	
Trichoptera	Brachycentridae	Brachycentrus *	
	Glossosomatidae	Glossosoma *	
	Hydropsychidae	Cheumatopsyche	2
		Hydropsyche *	
		Symphitopsyche	29
	Hydroptilidae	Leucotrichia *	
		Stactobiella *	
	Philopotamidae	Chimarra *	
	Polycentropodidae	Neureclipsis *	
Limnophila	Physidae	Physa *	
	Planorbidae	Gyraulus *	
Lumbriculida	Lumbriculidae	Rhynchelmis *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1986-92: 53
1992: 16

RBP SCORE: 22
DIVERSITY INDEX: 3.07

TABLE B16. Macroinvertebrate Data for South Creek at Fassett, Pa., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Dubiraphia *	
		Optioservus	2
		Stenelmis	26
	Psephenidae	Psephenus	6
Diptera	Rhagionidae	Atherix	3
	Chironomidae		31
	Empididae	Hemerodromia	1
	Simuliidae	Simulium	4
	Tabanidae	Chrysops *	
	Tipulidae	Antocha *	
Ephemeroptera	Baetidae	Baetis	8
		Pseudocloeon	1
	Caenidae	Caenis	2
	Ephemeridae	Ephemera *	
	Heptageniidae	Epeorus	1
		Heptagenia	1
		Leucrocuta	3
		Stenonema	2
	Leptophlebiidae	Leptophlebia *	
		Paraleptophlebia *	
	Oligoneuriidae	Isonychia	7
	Tricorythidae	Tricorythodes *	
Megaloptera	Corydalidae	Corydalus	1
		Nigronia	1
	Sialidae	Sialis	1
Odonata	Aeshnidae	Boyeria	1
	Gomphidae	Gomphus *	
		Ophiogomphus	1
Plecoptera	Leuctridae	Leuctra	2
	Perlidae	Acroneuria	5
		Neoperla *	
		Phasganophora *	
Trichoptera	Brachycentridae	Brachycentrus *	
	Hydropsychidae	Cheumatopsyche	9
		Hydropsyche	4
		Macronemum *	
		Symphitopsyche	3
	Hydroptilidae	Stactobiella *	

TABLE B16 Macroinvertebrate Data for South Creek at Fassett, Pa., 1988-92 (Continued)

Order	Family	Genus	Individuals Collected
Trichoptera	Philopotamidae	Chimarra	13
	Polycentropodidae	Neureclipsis	2
		Nyctiophylax *	
Hydracarina *			
Collembola *			
Decapoda	Cambaridae	Orconectes	1
Hemiptera	Veliidae	Microvelia *	
Limnophila	Physidae	Physa *	
Pelecypoda	Sphaeriidae *		
Tricladida	Planariidae	Dugesia *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 48
1992: 28

RBP SCORE: 36
DIVERSITY INDEX: 3.88

TABLE B17. Macroinvertebrate Data for Bentley Creek at Wellsburg, N.Y., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Optioservus *	
		Stenelmis	1
	Hydrophilidae	Tropisternus *	
	Psephenidae	Psephenus	1
Diptera	Athericidae	Atherix	1
	Chironomidae		27
	Empididae	Hemerodromia *	
	Simuliidae	Simulium	7
	Tabanidae	Chrysops *	
	Tipulidae	Hexatoma *	
		Tipula	1
Ephemeroptera	Baetidae	Baetis	14
		Pseudocloeon	11
	Caenidae	Caenis	2
	Heptageniidae	Epeorus *	
		Heptagenia *	
		Stenacron *	
		Stenonema	4
	Leptophlebiidae	Leptophlebia *	
		Paraleptophlebia *	
	Oligoneuriidae	Isonychia	2
	Potamanthidae	Potamanthus *	
	Tricorythidae	Tricorythodes *	
Megaloptera	Corydalidae	Nigronia *	
	Sialidae	Sialis *	
Odonata	Gomphidae	Gomphus *	
		Ophiogomphus *	
		Stylogomphus *	
Plecoptera	Capniidae	Paracapnia *	
	Leuctridae	Leuctra *	
	Perlidae	Acroneuria *	
		Paragnetina *	
		Phasganophora *	
Trichoptera	Glossosomatidae	Glossosoma *	
	Hydropsychidae	Cheumatopsyche	13
		Hydropsyche	5
		Symphitopsyche	13
	Hydroptilidae	Stactobiella *	

TABLE B17. Macroinvertebrate Data for Bentley Creek at Wellsburg, N.Y., 1986-92 (Continued)

Order	Family	Genus	Individuals Collected
Trichoptera	Leptoceridae	Mystacides *	
	Odontoceridae	Psilotreta *	
	Philopotamidae	Chimarra	4
	Polycentropodidae	Neureclipsis *	
Decapoda	Cambaridae	Cambarus *	
Limnophila	Physidae	Physa *	
	Planorbidae	Gyraulus *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 45
1992: 15

RBP SCORE: 20
DIVERSITY INDEX: 3.26

TABLE B18. Macroinvertebrate Data for Chemung River at Chemung, N.Y., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Dubiraphia	12
		Optioservus *	
		Stenelmis	2
	Gyrinidae	Dineutis *	
	Hydrophilidae	Berosus	5
	Psephenidae	Ectopria *	
		Psephenus	6
	Ptilodactylidae	Anchytarsus *	
Diptera	Chironomidae		14
	Empididae	Hemerodromia *	
	Simuliidae	Simulium *	
Ephemeroptera	Baetidae	Baetis	2
		Pseudocloeon *	
	Caenidae	Caenis	3
	Ephemerellidae	Serratella *	
	Ephemeridae	Ephemera *	
	Heptageniidae	Heptagenia *	
		Stenacron *	
		Stenonema	13
	Leptophlebiidae	Paraleptophlebia *	
	Oligoneuriidae	Isonychia *	
	Polymitarcyidae	Ephoron *	
	Potamanthidae	Potamanthus	9
	Siphlonuridae	Parameletus *	
	Tricorythidae	Tricorythodes	1
Lepidoptera	Pyralidae	Petrophila *	
Megaloptera	Sialidae	Sialis	1
Odonata	Coenagrionidae	Argia	2
		Nehallenia *	
	Gomphidae	Gomphus	1
		Ophiogomphus *	
Plecoptera	Perlidae	Acroneuria *	
		Neoperla	1
	Perlodidae	Isoperla *	
Trichoptera	Helicopsychidae	Helicopsyche *	
	Hydropsychidae	Cheumatopsyche	2
		Hydropsyche *	
		Symphitopsyche	4

TABLE B18. Macroinvertebrate Data for Chemung River at Chemung, N.Y., 1986-92 (Continued)

Order	Family	Genus	Individuals Collected
Trichoptera	Hydroptilidae	Dibusa *	
	Limnephilidae	Hydatophylax *	
		Pycnopsyche	1
	Polycentropodidae	Neureclipsis *	
		Nyctiophylax *	
Amphipoda	Talitridae	Hyalella *	
Hemiptera	Notonectidae	Notonecta *	
	Veliidae	Rhagovelia	2
Decapoda	Cambaridae	Cambarus *	
		Orconectes *	
Pelecypoda	Sphaeriidae	Musculium *	
Limnophila	Physidae	Physa	4
Rhynchobdellida	Glossiphoniidae	Batrachobdella *	
Tricladida	Planariidae	Dugesia *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1986-92: 52
1992: 19

RBP SCORE: 30
DIVERSITY INDEX: 3.60

TABLE B19. Macroinvertebrate Data for Susquehanna River at Sayre, Pa., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Optioservus	1
		Stenelmis	1
	Gyrinidae	Dineutis *	
	Hydrophilidae	Berosus	1
	Psephenidae	Ectopria *	
		Psephenus	7
Diptera	Rhagionidae	Atherix *	
	Chironomidae		11
	Empididae	Hemerodromia *	
	Simuliidae	Simulium *	
	Tipulidae	Limonia *	
Ephemeroptera	Baetidae	Baetis	3
		Pseudocloeon *	
	Caenidae	Caenis *	
	Ephemerellidae	Ephemerella *	
		Serratella *	
	Heptageniidae	Heptagenia	21
		Rhithrogena *	
		Stenacron	4
		Stenonema	9
	Leptophlebiidae	Leptophlebia	1
	Oligoneuriidae	Isonychia	4
	Polymitarcyidae	Ephoron *	
	Potamanthidae	Potamanthus *	
	Tricorythidae	Tricorythodes *	
Hemiptera	Gerridae	Metrobates	1
Lepidoptera	Pyralidae	Petrophila *	
Odonata	Coenagrionidae	Argia *	
	Gomphidae	Gomphus *	
Plecoptera	Leuctridae	Leuctra *	
	Perlidae	Neoperla	1
		Phasganophora *	
Trichoptera	Hydropsychidae	Cheumatopsyche	1
		Hydropsyche *	
		Macronemum *	
		Symphitopsyche	3
	Hydroptilidae	Ochrotrichia *	
	Philopotamidae	Chimarra *	

TABLE B19. Macroinvertebrate Data for Susquehanna River at Sayre, Pa., 1986-92 (Continued)

Order	Family	Genus	Individuals Collected
Amphipoda	Gammaridae	Gammarus	18
Annelida	Hirudinea *		
Decapoda	Cambaridae	Cambarus	1
		Orconectes *	
Pelecypoda	Sphaeriidae	Pisidium *	
Tricladida	Planariidae	Dugesia	1
Limnophila	Physidae	Physa	6

* Taxa not collected in 1992

NUMBER OF TAXA: 1986-92: 45
1992: 19

RBP SCORE: 34
DIVERSITY INDEX: 3.46

TABLE B20. Macroinvertebrate Data for South Branch Conewago Creek at Bandanna, Pa., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Optioservus	9
		Stenelmis	1
	Psephenidae	Psephenus *	
		Ectopria	1
Diptera	Athericidae	Atherix *	
	Chironomidae		25
	Dixidae	Dixa *	
	Simuliidae	Simulium	3
	Tabanidae	Chrysops *	
	Tipulidae	Antocha *	
		Hexatoma	1
		Pedicia *	
		Tipula	3
Ephemeroptera	Baetidae	Baetis	1
		Centroptilum *	
	Ephemerellidae	Ephemerella *	
		Serratella *	
	Heptageniidae	Heptagenia *	
		Stenonema	2
	Leptophlebiidae	Paraleptophlebia *	
Megaloptera	Corydalidae	Nigronia	11
	Sialidae	Sialis	1
Odonata	Aeshnidae	Boyeria	1
	Coenagrionidae	Argia *	
	Gomphidae	Gomphus	2
		Hagenius *	
		Stylogomphus *	
Plecoptera	Leuctridae	Leuctra *	
	Peltoperlidae	Peltoperla *	
	Perlidae	Acroneuria	10
		Phasganophora	2
	Perlodidae	Isoperla *	
Trichoptera	Glossosomatidae	Glossosoma	4
	Hydropsychidae	Cheumatopsyche	4
		Hydropsyche	7
		Potamyia	1
		Symphitopsyche	3

TABLE B20. Macroinvertebrate Data for South Branch Conewago Creek at Bandanna, Pa., 1988-92 (Continued)

Order	Family	Genus	Individuals Collected
Trichoptera	Limnophilidae	Neophylax *	
	Philopotamidae	Chimarra *	
		Dolophilodes	10
	Polycentropodidae	Polycentropus	4
Hemiptera	Veliidae	Rhagovelia *	
Hydracarina *			
Decapoda	Cambaridae	Procambarus *	
		Cambarus	1

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 45
1992: 23

RBP SCORE: 46
DIVERSITY INDEX: 3.81

TABLE B21. Macroinvertebrate Data for Long Arm Creek at Bandanna, Pa., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Ancyronyx	1
		Macronychus *	
		Optioservus	44
		Stenelmis	10
	Psephenidae	Psephenus	1
Diptera	Athericidae	Atherix *	
	Chironomidae		5
	Simuliidae	Simulium *	
	Tipulidae	Antocha *	
		Hexatoma	1
		Tipula	2
Ephemeroptera	Baetidae	Baetis	3
		Heterocloeon *	
	Caenidae	Caenis *	
	Ephemerellidae	Serratella *	
	Ephemeridae	Ephemera *	
	Heptageniidae	Epeorus *	
		Heptagenia *	
		Stenacron *	
		Stenonema	5
	Leptophlebiidae	Paraleptophlebia *	
	Oligoneuriidae	Isonychia *	
Megaloptera	Corydalidae	Nigronia *	
	Sialidae	Sialis *	
Plecoptera	Leuctridae	Leuctra	3
	Perlidae	Phasganophora *	
Trichoptera	Glossosomatidae	Glossosoma *	
	Hydropsychidae	Cheumatopsyche	8
		Hydropsyche	16
		Symphitopsyche	5
Decapoda	Cambaridae	Cambarus *	
		Orconectes	2

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 32
1992: 14

RBP SCORE: 30
DIVERSITY INDEX: 2.86

TABLE B22. Macroinvertebrate Data for Susquehanna River at Marietta, Pa., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Dubiraphia *	
		Optioservus *	
		Macronychus	1
		Stenelmis	10
	Psephenidae	Psephenus *	
Diptera	Chironomidae		7
	Empididae	Hemerodromia *	
	Simuliidae	Simulium *	
Ephemeroptera	Baetidae	Baetis	12
		Centroptilum *	
		Heterocloeon	17
		Pseudocloeon *	
	Caenidae	Caenis *	
	Ephemerellidae	Serratella *	
	Heptageniidae	Heptagenia *	
		Leucrocuta	5
		Stenacron	2
		Stenonema	7
	Oligoneuriidae	Isonychia	3
	Polymitarcyidae	Ephoron *	
	Potamanthidae	Potamanthus *	
	Siphlonuridae	Ameletus *	
	Tricorythidae	Leptohyphes *	
		Tricorythodes *	
Lepidoptera	Pyralidae	Petrophila *	
Megaloptera	Corydalidae	Nigronia *	
	Sialidae	Sialis *	
Odonata	Coenagrionidae	Argia *	
Trichoptera	Hydropsychidae	Cheumatopsyche *	
		Hydropsyche	1
		Macronemum *	
		Symphitopsyche	9
	Hydroptilidae	Leucotrichia *	
		Stactobiella *	
	Philopotamidae	Chimarra *	
	Polycentropodidae	Nyctiophylax *	
Amphipoda	Gammaridae	Gammarus	24
Decapoda	Cambaridae	Cambarus *	

TABLE B22. Macroinvertebrate Data for Susquehanna River at Marietta, Pa., 1986-92 (Continued)

Order	Family	Genus	Individuals Collected
Decapoda	Cambaridae	Orconectes *	
		Procambarus *	
Pelecypoda	Corbiculidae	Corbicula	5
	Sphaeriidae	Musculium *	
		Pisidium *	
Limnophila	Physidae	Physa	1
Lumbriculida	Lumbriculidae	Rhynchelmis *	
Tricladida	Planariidae	Dugesia *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1986-92: 47
1992: 14

RBP SCORE: 30
DIVERSITY INDEX: 3.30

TABLE B23. Macroinvertebrate Data for Scott Creek at Delta, Pa., 1989-92

Order	Family	Genus	Individuals Collected
Coleoptera	Dytiscidae	Agabus	2
	Elmidae	Optioservus	1
Diptera	Chironomidae		78
	Empididae	Hemerodromia	3
	Simuliidae	Simulium	6
	Tabanidae	Chrysops *	
		Tabanus	1
	Tipulidae	Antocha *	
		Pedicia *	
		Tipula	2
Ephemeroptera	Baetidae	Baetis *	
Odonata	Aeshnidae	Boyeria *	
	Gomphidae	Gomphus *	
Trichoptera	Glossosomatidae	Glossosoma *	
	Hydropsychidae	Cheumatopsyche *	
		Hydropsyche *	
		Symphitopsyche *	
Decapoda	Cambaridae	Cambarus *	
Isopoda	Asellidae	Asellus *	
Limnophila	Physidae	Physa	27
Haplotaxida	Naididae	Nais *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1989-92: 21
1992: 8

RBP SCORE: 6
DIVERSITY INDEX: 1.55

TABLE B24. Macroinvertebrate Data for Conowingo Creek at Pleasant Grove, Pa., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Macronychus *	
		Ordobrevia *	
		Optioservus *	
		Stenelmis	16
	Hydrophilidae	Berosus *	
	Psephenidae	Psephenus *	
Diptera	Athericidae	Atherix	4
	Chironomidae		4
	Empididae	Hemerodromia *	
	Simuliidae	Simulium	7
	Tipulidae	Antocha *	
		Tipula *	
Ephemeroptera	Baetidae	Baetis	7
	Caenidae	Caenis *	
	Ephemerellidae	Serratella *	
	Heptageniidae	Heptagenia *	
		Stenacron *	
		Stenonema	7
	Leptophlebiidae	Paraleptophlebia *	
	Oligoneuriidae	Isonychia	19
	Siphlonuridae	Ameletus *	
	Tricorythidae	Leptohyphes	6
Megaloptera	Corydalidae	Corydalus	3
		Chauliodes *	
		Nigronia	2
	Sialidae	Sialis	4
Odonata	Coenagrionidae	Argia *	
Plecoptera	Leuctridae	Leuctra *	
Trichoptera	Brachycentridae	Micrasema *	
	Hydropsychidae	Cheumatopsyche	6
		Hydropsyche	4
		Symphitopsyche	11
	Hydroptilidae	Leucotrichia *	
	Philopotamidae	Chimarra	5
	Psychomyiidae	Lype	2
Hydracarina *			
Decapoda	Cambaridae	Cambarus *	

TABLE B24. Macroinvertebrate Data for Conowingo Creek at Pleasant Grove, Pa., 1986-92 (Continued)

Order	Family	Genus	Individuals Collected
Decapoda	Cambaridae	Orconectes	2
	Asellidae	Asellus *	
	Lumbriculidae	Rhynchelmis *	
Isopoda	Corbiculidae	Corbicula	2

* Taxa not collected in 1992

NUMBER OF TAXA: 1986-92: 41
1992: 18

RBP SCORE: 42
DIVERSITY INDEX: 3.83

TABLE B25. Macroinvertebrate Data for Octoraro Creek at Rising Sun, Md., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Optioservus *	
		Stenelmis	1
	Psephenidae	Psephenus *	
Diptera	Chironomidae		2
	Empididae	Hemerodromia *	
	Simuliidae	Simulium	1
	Tipulidae	Antocha *	
Ephemeroptera	Baetidae	Baetis	3
		Heterocloeon	12
		Neocloeon *	
		Pseudocloeon *	
	Ephemerellidae	Ephemerella *	
		Serratella *	
	Heptageniidae	Epeorus	1
		Heptagenia *	
		Stenacron *	
		Stenonema	3
	Oligoneuriidae	Isonychia *	
	Siphlonuridae	Siphlonurus *	
	Tricorythidae	Leptohyphes	2
		Tricorythodes *	
Hemiptera	Vellidae	Rhagovelia	1
Megaloptera	Corydalidae	Corydalus	1
	Sialidae	Sialis *	
Odonata	Coenagrionidae	Argia *	
Plecoptera	Perlidae	Acroneuria *	
Trichoptera	Brachycentridae	Brachycentrus	37
		Micrasema *	
	Hydropsychidae	Cheumatopsyche	4
		Hydropsyche	1
		Macronemum	2
		Symphitopsyche	33
	Hydroptilidae	Leucotrichia	1
		Stactobiella *	
	Lepidostomatidae	Lepidostoma *	
	Philopotamidae	Chimarra	7
Amphipoda	Gammaridae	Gammarus	6
Cladocera	Leptodoridae	Leptodora *	

TABLE B25. Macroinvertebrate Data for Octoraro Creek at Rising Sun, Md., 1986-92

Order	Family	Genus	Individuals Collected
Decapoda	Cambaridae	Orconectes	2
Pelecypoda	Corbiculidae	Corbicula	7
	Sphaeriidae	Pisidium *	
Haplotaxida	Naididae	Nais	
Tricladida	Planariidae	Dugesia *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1986-92: 43
1992: 20

RBP SCORE: 42
DIVERSITY INDEX: 3.19

TABLE B26 Macroinvertebrate Data for Ebaughs Creek at Stewartstown, Pa., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Optioservus	1
		Stenelmis	1
	Psephenidae	Psephenus	1
Diptera	Athericidae	Atherix *	
	Chironomidae		6
	Empididae	Hemerodromia *	
	Simuliidae	Simulium *	
	Tipulidae	Antocha *	
		Tipula	3
Ephemeroptera	Baetidae	Baetis *	
		Centroptilum *	
		Pseudocloeon *	
	Caenidae	Caenis *	
	Ephemerellidae	Drunella *	
		Eurylophella *	
		Serratella *	
	Ephemeridae	Ephemera *	
	Heptageniidae	Epeorus *	
		Heptagenia *	
		Stenonema *	
	Leptophlebiidae	Leptophlebia *	
		Paraleptophlebia *	
	Oligoneuriidae	Isonychia	13
	Polymitarcyidae	Ephoron *	
	Potamanthidae	Potamanthus *	
	Tricorythidae	Leptohyphes *	
Lepidoptera	Pyralidae	Petrophila	1
Megaloptera	Corydalidae	Nigronia	5
Odonata	Aeshnidae	Boyeria *	
	Gomphidae	Gomphus *	
		Ophiogomphus *	
Plecoptera	Leuctridae	Leuctra *	
	Perlidae	Acroneuria *	
		Phasganophora *	
Trichoptera	Glossosomatidae	Glossosoma *	
	Hydropsychidae	Cheumatopsyche	2
		Hydropsyche	24
		Symphitopsyche	16

TABLE B26. Macroinvertebrate Data for Ebaughs Creek at Stewartstown, Pa., 1986-92 (Continued)

Order	Family	Genus	Individuals Collected
Trichoptera	Hydroptilidae	Dibusa *	
		Leucotrichia *	
	Philopotamidae	Chimarra *	
	Polycentropodidae	Nyctiophylax *	
Decapoda	Cambaridae	Cambarus *	
Lumbriculida	Lumbriculidae	Rhynchelmis	1
Tricladida	Planariidae	Dugesia *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1986-92: 46
1992: 12

RBP SCORE: 24

DIVERSITY INDEX: 2.81

TABLE B27. Macroinvertebrate Data for Deer Creek at Gorsuch Mills, Md., 1986-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Macronychus *	
		Optioservus *	
		Stenelmis *	
	Gyrinidae	Dineutis *	
	Psephenidae	Psephenus *	
	Ptilodactylidae	Anchytarsus *	
Diptera	Rhagionidae	Atherix *	
	Chironomidae		32
	Empididae	Hemerodromia *	
	Simuliidae	Simulium	3
	Tipulidae	Antocha *	
		Tipula	2
Ephemeroptera	Baetidae	Baetis *	
		Centroptilum *	
		Neocloeon *	
		Pseudocloeon *	
	Caenidae	Caenis *	
	Ephemerellidae	Ephemerella *	
		Serratella *	
		Eurylophella *	
	Heptageniidae	Epeorus	1
		Heptagenia *	
		Ironodes *	
		Stenonema	3
	Leptophlebiidae	Paraleptophlebia *	
	Oligoneuriidae	Isonychia	28
	Siphlonuridae	Parameletus *	
	Tricorythidae	Tricorythodes *	
Lepidoptera	Pyralidae	Petrophila *	
Megaloptera	Corydalidae	Corydalus	1
		Nigronia	1
	Sialidae	Sialis *	
Odonata	Aeshnidae	Boyeria	1
	Calopterygidae	Hataerina	2
	Gomphidae	Gomphus *	
		Ophiogomphus	1
		Hagenius *	
Plecoptera	Leuctridae	Leuctra *	

TABLE B27.Macroinvertebrate Data for Deer Creek at Gorsuch Mills, Md., 1986-92 (Continued)

Order	Family	Genus	Individuals Collected
Plecoptera	Perlidae	Acroneuria *	
		Paragnetina *	
		Phasganophora *	
	Perlodidae	Isoperla *	
	Taeniopterygidae	Strophopteryx *	
Trichoptera	Brachycentridae	Brachycentrus *	
	Glossosomatidae	Glossosoma *	
	Hydropsychidae	Cheumatopsyche	11
		Hydropsyche	23
		Symphitopsyche	9
	Hydroptilidae	Dibusa *	
		Leucotrichia *	
		Stactobiella *	
	Philopotamidae	Chimarra *	
Hydracarina *			
Decapoda	Cambaridae	Cambarus *	
Lumbriculida	Lumbriculidae	Rhynchelmis *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1986-92: 54
1992: 14

RBP SCORE: 24
DIVERSITY INDEX: 2.83

TABLE B28. Macroinvertebrate Data for Big Branch Deer Creek at Fawn Grove, Pa., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Optioservus	4
		Stenelmis *	
	Psephenidae	Ectopria	3
		Psephenus *	
	Ptilodactylidae	Anchytarsus *	
Diptera	Chironomidae		2
	Empididae	Hemerodromia *	
	Simuliidae	Simulium *	
	Tipulidae	Antocha *	
		Tipula *	
Ephemeroptera	Baetidae	Baetis	5
		Cloeon *	
		Heterocloeon *	
		Pseudocloeon *	
	Ephemerellidae	Serratella *	
	Heptageniidae	Epeorus	7
		Heptagenia *	
		Leucrocuta	3
		Stenonema	9
	Leptophlebiidae	Paraleptophlebia	6
	Oligoneuriidae	Isonychia	1
	Siphlonuridae	Ameletus	2
Megaloptera	Corydalidae	Chauliodes *	
		Nigronia	13
	Sialidae	Sialis *	
Odonata	Calopterygidae	Hetaerina *	
	Gomphidae	Gomphus	2
		Hagenius *	
Plecoptera	Leuctridae	Leuctra	18
	Perlidae	Acroneuria	1
		Phasganophora	5
	Perlodidae	Isoperla *	
Trichoptera	Glossosomatidae	Glossosoma	1
	Hydropsychidae	Cheumatopsyche	1
		Hydropsyche	6
		Potamyia	1
		Symphitopsyche	5

TABLE B28. Macroinvertebrate Data for Big Branch Deer Creek at Fawn Grove, Pa., 1988-92 (Continued)

Order	Family	Genus	Individuals Collected
Trichoptera	Philopotamidae	Chimarra *	
		Dolophilodes	9
	Polycentropodidae	Polycentropus	1
	Psychomyiidae	Lype	3
	Rhyacophilidae	Rhyacophila	3
Decapoda	Cambaridae	Cambarus *	
Hemiptera	Gerridae	Gerris *	
Tricladida	Planariidae	Dugesia *	

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 44
1992: 24

RBP SCORE: 48
DIVERSITY INDEX: 4.10

TABLE B29. Macroinvertebrate Data for Falling Branch Deer Creek at Fawn Grove, Pa., 1988-92

Order	Family	Genus	Individuals Collected
Coleoptera	Elmidae	Optioservus	23
		Stenelmis	19
	Hydrophilidae	Tropisternus *	
Diptera	Chironomidae		4
	Empididae	Hemerodromia *	
	Simuliidae	Simulium *	
	Tipulidae	Antocha *	
		Tipula *	
Ephemeroptera	Baetidae	Baetis	16
		Centroptilum *	
		Heterocloeon *	
		Pseudocloeon *	
	Ephemerellidae	Ephemerella	1
		Serratella *	
	Heptageniidae	Epeorus *	
		Stenonema	8
	Leptophlebiidae	Paraleptophlebia *	
	Oligoneuriidae	Isonychia	3
	Siphlonuridae	Ameletus	2
Megaloptera	Corydalidae	Chauliodes *	
		Nigronia *	
Odonata	Aeshnidae	Boyeria *	
	Gomphidae	Gomphus *	
Plecoptera	Leuctridae	Leuctra	1
	Perlidae	Acroneuria	1
Trichoptera	Glossosomatidae	Glossosoma	2
	Hydropsychidae	Cheumatopsyche	2
		Hydropsyche	1
		Symphitopsyche	23
	Limnophilidae	Goera *	
		Neophylax *	
	Philopotamidae	Chimarra *	
		Dolophilodes	1
	Polycentropodidae	Neureclipsis	1
	Rhyacophilidae	Rhyacophila *	

TABLE B29. Macroinvertebrate Data for Falling Branch Deer Creek at Fawn Grove, Pa., 1988-92 (Continued)

Order	Family	Genus	Individuals Collected
Haplotaxida	Naididae *		
Pelecypoda	Sphaeriidae	Sphaerium	1

* Taxa not collected in 1992

NUMBER OF TAXA: 1988-92: 36
1992: 17

RBP SCORE: 40
DIVERSITY INDEX: 3.14

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